

Backbearings: Air Medicine into the Third Millennium

Blair J. Munford, BMedSc, MBChB, FANZCA

*"Saw everything in black and white,
quite clear, no doubt somehow*

*Ah, but I was so much older then, I'm
younger than that now."*

Bob Dylan, *"My Back Pages"* (1964)

It has been said that those who do not learn from history are doomed to repeat it. The principle is similar to one known to orienteers and those who have taken survival courses: taking backbearings. Essentially, if you face where you came from, you then can look behind you and see where you are going. When I do this, like Bob Dylan, I find myself much less certain of so many things that I (thought I) knew 10 or 15 years ago.

The history of air medicine not only lies within the 20th century but is intimately entwined with it. The various wars of this century have driven the developments in aviation, medical, and communication technology that have been the three pillars of air medicine. Military air medical evacuation had its origins in the virtue of necessity. The mode of transport for casualties usually was the same as that for other services, such as troop transport and ordnance resupply. Civil transport initially followed the same path; air transport of patients predominantly was over distances for which flying was the only practical option.

In fact, the world's oldest air medical system, Australia's Royal Flying Doctor Service, was founded to "overcome the tyranny of distance" by using aviation and communication technology to bring

up-to-date medical care to the remote "Outback" regions.

While the basic philosophy of air medical services has changed little, the major growth in the industry occurred when the concept was taken a step further—using air transport, predominantly helicopters, to shorten prehospital or interhospital transport times over relatively short distances. In the 1970s and '80s, we knew that shorter prehospital times must be better and save lives. The Golden Hour concept was good, so even less must be better. This philosophy produced a veritable explosion in the number of services. In the United States, this explosion also was fueled by competition. In the heady days of the 1980s, it was not uncommon in some areas to have several air medical programs within a couple of miles of each other competing for the same pool of patients. But, hey, we all knew competition was good, right?

Most services started off being medically staffed because we knew that only physicians could resuscitate patients properly. However, most U.S. services subsequently replaced physicians with procedurally certified flight nurses, and by then all of us—except the programs and countries that stuck with physician staffing—knew the latter were just as good, weren't they?

The 1980s were the decade of air medical accidents. One single year saw 6% of all U.S. air medical helicopters involved in an accident. The novel *The Golden Hour* by Randy Main painted a harrowing picture of HEMS pilots

pushed to the limit by perceived medical need, competition, and cost-cutting. But with the falling accident rate in the Nineties, we knew we had fixed all this, hadn't we?

So as we approach the new millennium, we've pretty much got the whole thing wrapped up, haven't we? Not quite, I think.

Unfettered competition, far from keeping costs down and providing a better service, often has resulted in cost blowouts from overservicing. It also may have led to shaving clinical and safety standards in the pursuit to provide more for less. Is it time for us to ask whether the free enterprise model is appropriate for air medical services? Is a nonprofit model, such as a public utility or shared cooperative service, more appropriate?

Neither is the airborne advanced life support picture universally rosy. On one hand, some studies of resuscitation indices, such as intubation success rates, suggest that clinical efficacy still has a way to go. On the other hand, the value of advanced care has seen critical care ground transport systems grow out of air medical transport. Ironically, these ground services have become perhaps the principal competitor for air medical programs, especially because it now appears that time per se may be less important than the level of care in transit.

Nor is the safety of air medicine a cause for complacency. The past year has seen a tragic upswing in air medical accidents, many apparently as a result of the old bogeys of weather and wires. Yet

the culture of our industry continues to encourage the "can do" mentality (another name for risk-taking). When was the last time we saw an air medical crew honored for declining an unsafe mission and thereby potentially saving several lives, even if the patient died?

So what should our goals be?

First, I believe we need to develop and promulgate a utilization model that defines the role of air medical services and critical care transport within the overall delivery of health care. The clinical condition should define the required level of care and its urgency; the mode of transport then is determined by the triad of locations: patient, destination, and team. Within this framework, the effectiveness and economy of different medical transport services can be assessed against such alternatives as more hospitals.

Second, we need more quality research without getting tunnel vision about controlled trials. For example, I might perform a double-blind study

comparing two drugs in the air medical setting that is scientifically valid and highly significant. However, if these drugs already have been similarly evaluated in hospital practice, the study may be of no real value whatsoever. Although outcome-based studies are the final stage, the cutting edge of research is always innovation, without which there can be no new equipment, drugs, or procedures to trial.

Finally and most importantly, we need to address the question of who drives air medicine. If we allow our services to become purely "customer-focused," we risk being forced into unsafe medical or aviation practices in our efforts to keep the payers satisfied. If we allow our services to be purely medically driven, we again risk violating aviation safety and good sense in the search for the all-capable platform. Conversely, the purely aviation-driven service may be safe but is unlikely to be relevant, clinically effective, or economic.

Paradoxically, what we need are ser-

vices that can be 100% customer responsive, 100% medically driven, or 100% aviation-focused as required. They also need to be able to fluidly shift the emphasis or balance between these imperatives on a minute-to-minute basis. This is a tall order, but as someone once said, "If it were easy, everyone would be doing it, right?" Perhaps the 300% service is a fitting challenge for us in the third millennium.

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Blair J. Munford, BMedSc, MBChB, FANZCA, is senior flight physician and deputy medical director with NRMA CareFlight/NSW Medical Retrieval Service in Westmead, Australia.