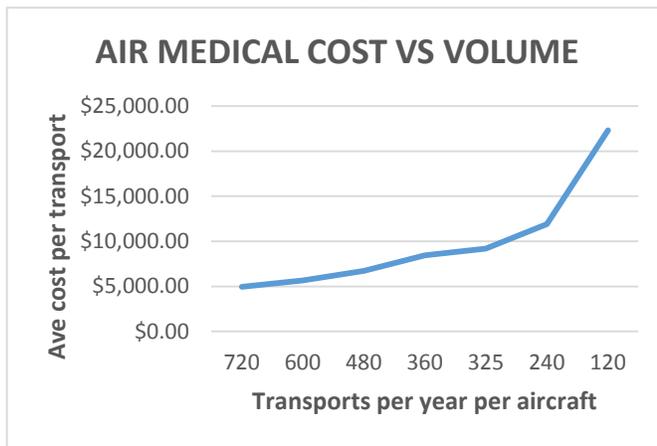


# The Inverse Relationship between Cost and Volume in Air Medical Transport Services

The true picture of the cost of transport by Helicopter Air Ambulance (HAA) services can only be understood by considering transport volumes per helicopter. **Specifically, due to the high percentage of fixed costs for HAA services, as volumes fall, costs rise.** Over the past decade as the number of aircraft have increased threefold, transport volumes per helicopter have fallen precipitously, and operational costs, along with the charges to patients and insurers, have risen dramatically.

Directly related to the fall in volumes is the 350% increase in the number of HAA helicopters, rising from 293 in 1995<sup>1</sup> to 1020 in 2014<sup>2</sup>. According to Ira Blumen, MD<sup>1</sup>, the nation-wide average annual HAA transport volume per helicopter in the early 1990s was slightly under 700. A more recent study<sup>3</sup> found the nation-wide average annual HAA transport volume per helicopter in 2011 to be 325. Anecdotal evidence indicates the annual volumes per helicopter have continued fall since that time.



To illustrate the impact of volume on cost, the fixed and variable costs for a typical HAA program were used (calculations available on request) to create the graph at left. This graphic shows how costs rise as volumes decrease. At the transport volumes of the early 1990s, the cost per transport was about \$5000 in 2016 dollars. At the average volume per helicopter in 2011, that cost had doubled to nearly \$10,000. If volumes continue to fall, the cost per transport could exceed \$20,000.

The CMS HAA Fee Schedule, which was fully implemented in 2002, added a significant amount of money to HAA reimbursement and resulted in an

unprecedented increase in the numbers of helicopter providing HAA. This began the upward spiral of costs and charges for HAA transport that has now reached crisis proportions. Because of preemptions of the Airline Deregulation Act of 1978, which prohibit States from regulating rates, routes, and services of Air Carriers, growth in HAA helicopters has gone unchecked, resulting in too many overly saturated markets throughout the country. Further, while costs have increased there is also a disconnect between costs and charges.

Federal authorities and regulators need to comprehensively research the numbers of HAA helicopters and their respective transport volumes as they research the costs and charges associated with HAA services. Any attempt to increase reimbursement in order to realign it with costs *without appropriate consideration of volume impacts* will only exacerbate the problems of high costs and charges. When analyzing costs, consideration must be given to the different types and capabilities of aircraft flown, as well as the vastly different patient care capabilities between various providers. Aircraft that are equipped to fly in IFR conditions, can carry additional critical care equipment or providers, and that have safety enhancements beyond the minimums established by the FAA add tangible value to patients, but such investments are not recognized under current reimbursement schemes. When considering charges, researchers must look at the 300-500% differential in pricing between providers, understanding that the payor mix of most programs is very similar.

The Association of Critical Care Transport supports 1) mandatory comprehensive Medicare cost reporting of all air ambulance operations; 2) contextualizing such cost reporting to reflect the impact of reduced volume/flights with the increase of higher costs; and 3) the alignment of federal health and transportation policy to incentivize appropriate reimbursement for high quality critical care transport without promoting unnecessary growth in already oversaturated markets which will increase costs and charges for patients.

1 An Analysis of HEMS Accidents and Accident Rates. Ira Blumen, MD. A presentation for the NTSB Public Hearing in February, 2009.

2 Atlas and Database of Air Medical Services. Center for Transportation Injury Research. September, 2014.

3 An Economic Analysis of the U.S. Rotary Wing Air Medical Transport Industry. Prepared by Economic & Planning Systems, Inc., for The MedEvac Foundation International and the Association of Air Medical Services. June, 2013.