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The Set Covering Problem Applied to Military Air Medical Evacuation

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Author Note: Alexander Bates, Zach Bell, and Alex Mountford graduated from the United States Military Academy (USMA) in 2014 where they majored in Systems Engineering. Currently all second lieutenants in the U.S. Army, they worked on this research during their final year at USMA under the advisement of Paul Evangelista. Paul Evangelista is a lieutenant colonel in the U.S. Army and currently serving as an Academy Professor in the Department of Systems Engineering and the Director of the Operations Research Center at USMA.

Abstract: This paper presents a model for military organizations that need to allocate Air Medical Evacuation (MEDEVAC) resources. The recommended methodology applies a classic linear programming set covering model motivated by the application with data from recent military activity in Afghanistan.

Keywords: Set Covering Problem, K-Means Clustering, Military Resource Allocation