

1096-G5-2521      **Charles Bergeron\*** (chbergeron@gmail.com), Albany College of Pharmacy, and Health Sciences, 106 New Scotland Avenue, Albany, NY 12208. *Discovering athlete treatment modalities at the Pan-American Games*. Preliminary report.

We are studying a dataset consisting of 1957 encounters between an American athlete and a medical provider during the 2011 Pan-American Games. This is a fast-paced environment where time and resources are limited. Each encounter documents the athlete (sport, gender), provider (physiotherapist, medical doctor, etc.), the nature of the athlete's complaint and which of 20 treatments were applied (the treatment space). Applying principal components analysis (PCA) to the treatment space, we find 3 leading components explaining 72% of the variability. Their PCA scores reveal 4 clusters (or modalities) that are interpretable: Recovery-Performance Enhancement, Soft Tissue Mobilization with Spinal Manipulation, Soft Tissue Mobilization without Spinal Manipulation and General Medical. Each cluster is dominated by specific sports, complaints and provider types, providing valuable insights into what medical issues athletes face and how providers approach these issues.

These modalities can be further refined to obtain 20 submodalities that are even more specific. This research foreshadows sport- and provider- specific models that can be used to better train providers prior to multisport events such as the Olympics. (Received September 17, 2013)