Multidimensional frequency models can be used for modeling number of claims from different branches which are somehow dependent on each other. As in the one-dimensional case Poisson distribution and negative binomial distribution are primarily used for modeling multidimensional claim counts data, only they are extended to higher dimensions. The generalization of multi-dimensional distributions is often done using so-called shock variables, where one random variable is included in all dimensions of a random vector which models claim counts. The more comprehensive approach to modeling dependence uses copulas. Comparison of these models is done on a simulated data of number of claims from two different car insurance guarantees.