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Trend Analysis Algorithms and Applications to Health Rate Review

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A comprehensive study published by the Organization for Economic Cooperation & Development (OECD) covering more than 30 nations. Within this study, we found stark contrasts between health costs for various programs in the United States. Health care costs continue to rise rapidly in the U.S. and throughout the developed world. Total U.S. health care expenditures were estimated to be $2.8 trillion in 2012, and are projected to soar to $3.5 trillion in 2016. The medical trend analysis based on historical data is an important factor to predict the medical cost in the future: it is an essential factor for health insurance rate evaluation and rate making. In this presentation, we are going to introduce the concepts and methods of trend analysis first, and also a developed an Excel Software package for trend analysis by including methods of linear regression, exponential regression, and time series analysis. We will provide an application showing trend results of premiums and claims based on some real data sets collected in Tennessee.