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Master's Seminar

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Three-Step Disaggregate Forecasts of Personal Health Care Cost

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ABSTRACT

This paper assesses three methods of forecasting model for the Personal Health Care (PHC) costs in the United States. First forecast, the simplest approach of the three, is done by taking the aggregate PHC datasets and forecasting for 2006–2015 by the ARIMA model. Second approach takes into consideration of the differences in PHC expenditure by age group and forecasts the future PHC by disaggregating the total PHC by age group and extrapolating by the ARIMA model before aggregating to find the total PHC estimate. The third approach takes each age group and further disaggregates into expected patient number and expected average medical cost. The patient numbers were estimated by using the ratio between the historic discharge number by age group and the total population of that age group for that given year. For the expected average medical cost, extrapolation took place by the ARIMA model. The result show that the total PHC forecast and the disaggregated PHC forecast by age group differ by \$64 billion dollars in 2006 and increases to \$621 billion dollars by 2015. Similarly, for the first and the third approach, the forecast differs by \$100 billion in 2006 and increases to \$609 billion dollars by 2015. With three different forecasts, the result has a significant implication for future policy and business plans.