

## Sources of Inappropriate Variation: Persistence of Important and High Cost Conditions

**Background:** TMA would like to conduct a systematic investigation to establish existing variation in current medical practice in the treatment of two important, prevalent, and/or costly medical conditions in the MHS.

**Purpose:** This extension of work conducted to understand the existence of small area variation is designed to more fully understand adult urinary tract infection (UTI) and high cost pediatric cases. The objective of this study is to identify and understand variation in clinical practice and its effect on quality and costs of care.

**Methods:** We will start by drawing a statistical portrait of the two clinical cohorts of interest to establish the extent of variation in prevalence, costs and use of health care services. In addition, we will also stratify our cohort based upon health status using one of the risk scoring methodologies currently under investigation.

We will then conduct a detailed evaluation of the cost and consequences of inappropriate variation. To do so will require the identification of what is appropriate versus inappropriate care. For each of our two clinical cohorts, we will develop a decision tree that models a recommended practice guideline developed through consultation with medical opinion leaders and obtained through structured interviews. The aim of this task is to select a treatment or clinical condition that has high costs or considerable variation in outcomes and to develop cost and consequence estimates that will demonstrate the value of this approach to TMA. These data will allow us to develop episodes of care that will generate epidemiological estimates of the proportions of TRICARE Prime beneficiaries receiving appropriate versus inappropriate treatment.

For each person in our cohort, we will construct an analytic record that spans up to a 24 month period. Both descriptive and multivariate analyses will be done by drawing a statistical portrait of the TRICARE Prime beneficiaries deemed to have received appropriate care versus those that did not receive appropriate care comparing and contrasting across variables of interest, age, geographic areas, health status, PCM, etc.

For the two clinical cohorts, we will estimate the degree of avoidable health care costs and consequences. We propose to study the effect of treatment guidelines on avoidable health care costs using a cost of illness approach. Our analysis will be a prevalence based approach for estimating costs, using 12 months of costs to estimate annual disease burden. Cost differences between the two samples within each cohort will be compared by examining both the direct costs, or difference in disease-related medical spending. Potential cost savings will be estimated by examining the direct medical expenses of the two populations.