

# **Impact of Prior Authorization on Medicare Advantage Enrollees with Social Risk Factors**

## **Overview**

Blue Cross and Blue Shield of Kansas (BCBSKS) researched and performed statistical analysis on the prior authorizations that are performed on the Medicare Advantage (MA) population. The purpose was to determine if there was any statistically significant evidence showing a difference in prior authorization outcomes between enrollees with social risk factors compared to enrollees without social risk factors.

## **Methodology**

The methodology used, based on the data provided, was non-parametric tests. These two tests were Chi-Squared contingency tables and Fisher's Exact test (for low denial counts <5). The significance level for these tests was based on an alpha of  $> .05$  for evidence. The data was provided from UST HealthProof, the vendor that performs prior authorization for inpatient admissions for BCBSKS, from their records of prior authorizations for the calendar year of 2024 for BCBSKS Medicare Advantage members.

Social risk factor is defined as eligibility based on disability, Low-Income Subsidy (LIS) or both. Prior authorization outcomes are defined as approvals and denials, including appeals, expedited, extensions and average and median time frames.

## **Results**

**Key Result:** There were no identified statistically significant differences in prior authorization outcomes between enrollees with social risk factors compared to enrollees without social risk factors.

The results of the Chi-Squared test showed a test statistic of 5.95 and a p-value of .43. With 6 degrees of freedom (based on the number of categories observed in terms of members and approvals/denials/voids) the critical value of 12.592 was not reached by the test statistic. Combined with the p-value being greater than .05, these results show no statistical evidence of a difference in the approval or denial rates of any MA members.

A Fisher's test was used to further identify in differences in outcomes, because there were a low amount of denials ( $< 5$ ). Results for all 3 categories of prior authorization outcomes (approved, denied and voided) showed no significant differences.

# Conclusion

For data from the year 2024, there is no evidence of a difference in outcomes in the prior authorization outcomes for MA members based on disability or low-income subsidy status or both versus members without social risk factors.

Table 1: Chi-Squared Results

Test statistic: 5.946155512237385  
Degrees of Freedom: 6  
p-value: 0.4292487712286862  
Expected Values: [[5.91923077e+01 1.50329670e+01 1.40934066e+01 2.53681319e+02]  
[6.92307692e-01 1.75824176e-01 1.64835165e-01 2.96703297e+00]  
[3.11538462e+00 7.91288791e-01 7.41758242e-01 1.33516484e+01]]

Category	DUAL	Disabled	LIS	Not Disabled/LIS	Row Total
Auth Status					
APPROVED	60	15	14	253	342
DENIED	0	0	1	3	4
VOID AUTHORIZATION	3	1	0	14	18
Column Total	63	16	15	270	364

Pearson Residuals Squared:

Category	DUAL	Disabled	LIS	Not Disabled/LIS	Row Total
Auth Status					
DENIED	0.101180	0.446413	3.497990	0.033551	0.054587
VOID AUTHORIZATION	0.008901	0.042555	0.091115	0.016814	0.002932
APPROVED	0.006770	0.004168	0.006869	0.000697	0.000363
Column Total	0.000541	0.003352	0.003604	0.000286	0.000386

Observed vs Expected

Disabled

Auth Status

APPROVED	0.997807
DENIED	0.000000
VOID AUTHORIZATION	1.263889

Name: Disabled, dtype: float64

Table 2: Fisher’s Exact Test Results

... Fisher's Exact Test - APPROVED vs. Others: p-value = 0.7956  
Fisher's Exact Test - DENIED vs. Others: p-value = 0.5808  
Fisher's Exact Test - VOID AUTHORIZATION vs. Others: p-value = 1.0000