

中文題目：老人健康折舊與醫療需求之攸關性研究：質性反應模型之應用

英文題目：The application of qualitative response model (QRM) in a relevance study of the elderly health depreciation and medical care demand: a tertiary hospital cohort

作者：翁碩駿^{1,2,3}、唐德成^{3,4,5}、李三剛^{1,6}、許惠恒^{1,7}、朱正忠⁸、徐國雄²、吳明儒^{2,3}、唐憶淨^{1,9}、楊淑慧^{1,10}、林灼榮^{11*}(通訊作者) on behalf of GREEnS project, Tunghai University, Taiwan and CGG-TCVGH investigators, Taichung Veterans General Hospital, Taiwan

服務單位：

¹ 台中榮民總醫院高齡醫學中心、² 內科部腎臟科

³ 國立陽明大學臨床醫學研究所

⁴ 國立陽明大學生理學科暨研究所

⁵ 台北榮民總醫院內科部腎臟科及免疫研究中心

⁶ 台中榮民總醫院放射線部

⁷ 台中榮民總醫院新陳代謝科

⁸ 東海大學資訊工程系

⁹ 台中榮民總醫院家庭醫學科

¹⁰ 台中榮民總醫院護理部

¹¹ 東海大學國際貿易學系

Background: The demand for geriatric care services faces great obstacles from nowadays case payment policy under the supervision of the health insurance department. Marginal effect analysis between expectancies of outcomes and inpatient services from budget constraint have not been surveyed yet.

Methods: Administrative data of case management system in the Center for Geriatrics and Gerontology at Taichung Veterans General Hospital. In total, 1,191 eligible cases from September 2008 to October 2012 were investigated during hospitalization. All participants underwent comprehensive geriatric assessment (CGA). Three sets of qualitative response models (QRM), including Poisson regression, order choice Profit model, and binary choice Profit model, were constructed to estimate the impact of elderly health depreciation on multidisciplinary geriatric care (MDGC) services. Furthermore, we analyzed the factors affecting composite endpoints (CEPs) of re-hospitalization within 14 days, re-admission to emergency department within 3 days, and patient death.

RESULTS: The mean age of the enrolled elderly individuals was 80.6 ± 6.2 years. In total, 73.3% of subjects were male and 40.6% were veterans. Greater health depreciation in the elderly patients was positively correlated with greater medical care demand. Three major components was defined as health depreciation: elderly adaptation function (3.7 ± 2.6), geriatric syndromes (6.6 ± 2.6), and

multiple chronic diseases (2.7 ± 1.5). Upon admission, the better the patients' basic living functions, the shorter was the length of potential hospital stay (coefficient = -0.35 , $P < .001$ in Poisson regression; coefficient = -0.33 , $P < .001$ in order choice Profit model; coefficient = -0.29 , $P < .001$ in binary choice Profit model). The major determinants for poor outcome were male sex ($P < .001$), middle age ($P = .02$), and length of hospital stay ($P < .001$). However, factors that correlated with relatively good outcome were overall functional improvement after medical care services ($P = .04$) and level of disease education ($P < .001$).

CONCLUSION: Relatively good functional status of older people on admission can have a predictive value in multidisciplinary geriatric care (MDGC). However, an optimal allocation system for selection of cases into MDGC is required due to limited resources. Outcomes will thus improve with better health promotion and preventive care services.

KEYWORDS: health depreciation, medical care, qualitative response model