Combinations of certain social risk factors of race, sex, education, socioeconomic status (SES), insurance, employment, and one's housing situation have been associated with poorer pain and disability outcomes after lumbar spine surgery.

An exploration of such factors in patients with cervical spine surgery was conducted by Rethorn et al. they aimed to 1) define the social risk phenotypes of individuals who have undergone cervical spine surgery for myelopathy and 2) analyze their predictive capacity toward disability, pain, quality of life, and patient satisfaction-based outcomes

The Cervical Myelopathy Quality Outcomes Database was queried for the period from January 2016 to December 2018. Race/ethnicity, educational attainment, SES, insurance payer, and employment status were modeled into unique social phenotypes using latent class analyses. Proportions of social groups were analyzed for demonstrating a minimal clinically important difference (MCID) of 30% from baseline for disability, neck and arm pain, quality of life, and patient satisfaction at the 3-month and 1-year follow-ups.

A total of 730 individuals who had undergone cervical myelopathy surgery were included in the final cohort. Latent class analysis identified 2 subgroups: 1) high risk (non-White race and ethnicity, lower educational attainment, not working, poor insurance, and predominantly lower SES), n = 268, 36.7% (class 1); and 2) low risk (White, employed with good insurance, and higher education and SES), n = 462, 63.3% (class 2). For both 3-month and 1-year outcomes, the high-risk group (class 1) had decreased odds (all $p < 0.05$) of attaining an MCID score in disability, neck/arm pain, and health-related quality of life. Being in the low-risk group (class 2) resulted in an increased odds of attaining an MCID score in disability, neck/arm pain, and health-related quality of life. Neither group had increased or decreased odds of being satisfied with surgery.

Although 2 groups underwent similar surgical approaches, the social phenotype involving non-White race/ethnicity, poor insurance, lower SES, and poor employment did not meet MCIDs for a variety of outcome measures. This finding should prompt surgeons to proactively incorporate social consciousness care pathways within healthcare systems, as well as to optimize community-based resources to improve outcomes and personalize care for populations at social risk [1].

1)
Rethorn ZD, Cook CE, Park C, Somers T, Mummaneni PV, Chan AK, Pennicooke BH, Bisson EF, Asher AL, Buchholz AL, Bydon M, Alvi MA, Coric D, Foley KT, Fu KM, Knightly JJ, Meyer S, Park P, Potts EA, Shaffrey CI, Shaffrey M, Than KD, Tumialan L, Turner JD, Upadhyaya CD, Wang MY, Gottfried O. Social risk factors predicting outcomes of cervical myelopathy surgery. J Neurosurg Spine. 2022 Jan 28:1-8. doi: 10.3171/2021.12.SPINE21874. Epub ahead of print. PMID: 35090132.