Objectives: The aim was to study the amount of plaque, gingival inflammation and periodontitis in subjects in relation to general diseases diagnosed at hospital and proceeding death, in a 13 year longitudinal study.

Methods: The participants consisted of 1664 subjects randomly selected 30 to 40 years of age, 842 females, 35.7 (+- 2.9 SD) yr. and 822 males 35.8 (+- 2.8) yr. Their hospital care and death was followed during 13 years. Oral examinations were carried out at baseline with determination of plaque (PLI), gingivitis (GI) and number of teeth with pockets 5 mm and deeper. After 13 years the subjects were divided in two groups, HM-group subjects who had been treated at hospitals before they passed away, 10 females and 13 males and HH-group,1653, healthy or treated at hospital. The International Classification of Diseases, 9th Revision (ICD-9) has been used for the diagnosis of diseases and death. Analysis of Variance was the statistical method used.

Results: During the 13 years 95.7 % (22 /23) of the subjects in the HM-group had visited hospital in mean 9 (+- 8.2 SD) times. Neoplasms (ICD 140-239), Mental Disorders (ICD 290-319) and Diseases of the Circulatory System (ICD 390-459) were the most frequent diagnosis found during their stay at hospital. There was statistically significant difference in PLI at baseline (p<0.05) between the HM-group and HH-group 0.94 (+-1.4 SE) and 0.70 (+-0.01 SE) respectively. Statistically significant difference (p=0.01) was also found for GI at baseline between the HM-group and HH-group, 1.55 (+-0.12 SE) and 1.27 (+-0.01 SE) respectively.

Conclusions: Amount of plaque and gingival inflammation might be marker for development of certain diseases which can be the cause death. The study was supported by the Karolinska Institutet.