

# The physician and the sickness certification

Akademisk avhandling

Som för avläggande av medicine doktorexamen vid Sahlgrenska akademien,  
Göteborgs universitet kommer att offentligens försvaras i  
Hälsovetarbacken Hus 2, lokal 2118, den 9 februari, 2018, klockan 13.00

av

**Karin Starzmann**

Fakultetsopponent:

Professor senior Bengt Järholm

Umeå Universitet

## Avhandlingen baseras på följande delarbeten

- I. Starzmann K, Hjerpe P, Dalemo S, Björkelund C, Bengtsson Boström K. No physician gender difference in prescription of sick-leave certification: A retrospective study of the Skaraborg Primary Care Database. *Scand J Prim Health Care*. 2012; 30: 48-54.
- II. Starzmann K, Hjerpe P, Dalemo S, Ohlsson H, Björkelund C, Bengtsson Boström K. Diagnoses have the greatest impact on variation in sick-leave certification rate among primary-care patients in Sweden: A multilevel analysis including patient, physician and primary health care centre levels. *Scand J Public Health*. 2015; 43: 704-712.
- III. Starzmann K, Hjerpe P, Bengtsson Boström K. Symptom diagnoses in the sickness certificate predict lower quality of the sick leave process. A retrospective study of medical records in Sweden. In manuscript.
- IV. Bengtsson Boström K, Starzmann K, Östberg AL. "If only we could be spared." Primary care physicians' voices on sickness certification. Focus group interviews in Sweden. Submitted.

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Karin Starzmann, Department of Public Health and Community Medicine/Primary Health Care, Institute of Medicine at Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden.

## Abstract

**Background and aims:** Sickness insurance is a hallmark of most welfare states. The rising costs of sickness insurance in Sweden have been attributed to varying sickness certification practices among physicians. Other factors, such as the gender and socioeconomic status of the patient, or the experience of the physician, may affect the rate of sickness certification. The importance of these factors alone and in relation to each other has been the focus of the two first studies in this thesis. The government introduced new reforms, the so-called “sick leave billion”, in 2006 to improve the quality of the sick leave process and reduce the costs of sickness insurance. It is of interest to investigate how these reforms have affected the quality of the sick leave process and the physicians’ views of their working conditions. Symptom diagnoses (R diagnoses) in sickness certificates are easy to capture in national registries and have been shown to predict poor certificate quality. The potential usefulness of this marker was investigated in the third study. Primary health care physicians consider sickness certification problematic. The aim of the fourth study was to investigate whether the views of physicians changed after the introduction of the reforms.

**Methods:** *Study I and II:* Retrospective study of computerised medical records from 24 Primary Health Care Centres (PHCCs), 589 physicians and 88,780 patients in 2005. *Study I:* Comparison of sickness certification rates and duration between physicians of different gender and experience. *Study II:* Multilevel logistic regression analysis of variations in sickness certification at three levels: patients (n = 64,354: gender, age, socio-economic status, workplace factors and diagnoses); physicians (n = 574: gender and experience), and PHCCs (n = 24). *Study III:* Retrospective study of computerised medical records and texts from sickness certificates from PHCCs, 2013-2014. Patients with a symptom diagnosis (SD) in the certificate, n = 222, and controls with disease-specific diagnoses, n=222, matched for sex and age, were compared concerning health care consumption, quality of the text in the certificates, duration of sick leave and time to contact for rehabilitation. *Study IV:* Qualitative design, six focus group interviews were performed in PHCCs in Västra Götaland in 2015, including GPs, interns, GP trainees and locums (n = 28). Qualitative content analysis was used to explore the views of physicians on the sickness certification process after introduction of the reforms.

**Conclusions:** Physicians of different gender handle sickness certification in a similar way. GPs issued certificates of longer duration. In the multilevel model, the most important factors for variation in sickness certification were patient-related (diagnosis and socioeconomic status) and the physician’s contribution was small. Symptom diagnoses in the certificate were associated with higher health care consumption and poorer quality of the sick leave process. The focus group interviews showed that the physicians perceived the sickness certification process as emotive and a challenge to master, with different demands and expectations from the management and the patients.

**Keywords:** Sick Leave, Primary Health Care, Multilevel Analysis, Gender, Physicians, Socio-economic factors, Guideline Adherence, Survival Analyses, Qualitative study, Focus groups