

# Identification and early detection of cancer patients in primary care

Akademisk avhandling

som för avläggande av medicine doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentligen försvaras i föreläsningssal Arvid Carlsson, Medicinargatan 3, Göteborg, fredagen den 20 april, klockan 09.00 av

**Marcela Ewing**

Fakultetsopponent:

Willie Hamilton, Professor

University of Exeter, Exeter, Storbritannien

## Avhandlingen baseras på följande delarbeten

- I. Ewing M, Naredi P, Nemes S, Zhang C and Månsson J. Increased consultation frequency in primary care, a risk marker for cancer: a case-control study. *Scand J Prim Health Care*. 2016; **34(2)**: 2015-2212.
- II. Ewing M, Naredi P, Zhang C and Månsson J. Diagnostic profile characteristics of cancer patients with frequent consultations in primary care before diagnosis: a case-control study. *Accepted for publication 8 Feb 2018 in Family Practice*.
- III. Ewing M, Naredi P, Zhang C and Månsson J. Identification of patients with non-metastatic colorectal cancer in primary care: a case-control study. *Br J Gen Pract*. 2016; **66(653)**: e880-e886.
- IV. Ewing M, Naredi P, Zhang C, Lindsköld L and Månsson J. Clinical features of lung cancer patients with non-metastatic disease in primary care: a case-control study. *BJGP Open*. 2018.

**SAHLGRENSKA AKADEMIN**  
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# Identification and early detection of cancer patients in primary care

**Marcela Ewing**

Department of Public Health and Community Medicine, Institute of Medicine, Sahlgrenska academy at the University of Gothenburg, Gothenburg, Sweden, 2018

## **Abstract**

**Aim** The aim of this thesis was to investigate how general practitioners (GP) can identify patients in primary care with potential common cancers, at an early stage. It was also to design a risk assessment tool for colorectal cancer.

**Method** Four population-based case-control studies were conducted with cancer patients diagnosed in 2011 in Region Västra Götaland, Sweden, with prostate, breast, colorectal, lung, gynaecological, and skin cancers, including malignant melanoma. Data were retrieved from the Swedish Cancer Register, the regional healthcare database and the regional repository for radiology.

**Results** The patients' frequency of consultation in primary care increased 50–100 days before cancer diagnosis (Paper I). More than half had consulted a GP at least four times in the year before cancer diagnosis. A considerable proportion of patients presented with early clinical features that were focal and had benign characteristics (Paper II). Bleeding combined with diarrhoea, constipation, a change in bowel habit, or abdominal pain had the highest positive predictive values of non-metastatic colorectal cancer. A risk assessment tool was designed for colorectal cancer (Paper III). Non-metastatic lung cancer could not be identified by clinical features (Paper IV).

**Conclusion** Increased consultation frequency in primary care is a risk marker for common cancers as are focal features presented with benign characteristics. It is possible for a GP to identify patients with non-metastatic colorectal cancer by their clinical features. There is not enough evidence to suggest that patients with non-metastatic lung cancer can be identified.

**Keywords:** cancer; consultation; diagnosis; early detection; general practice; primary health care.