Risk factors of coronary heart disease in primary care patients: Results of the prospective longitudinal DETECT program.

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Background
The WHO estimates that in the year 2000, 16.7 million people died from cardiovascular disease (CVD), accounting for 30.3% of all death globally. Many cardiovascular events that lead to high short-term morbidity and mortality can be prevented or delayed by management of risk factors. Risk factors include hypertension, dyslipidaemia, smoking, obesity, and a sedentary lifestyle. These risk factors were determined in community surveys as well as in clinical trials, however, little is known about their prevalence in primary care patients.

Aims
The epidemiological study DETECT2 (Diabetes-Coronary Risk Evaluation: Targets and Essential Data for Commitment of Treatment) was launched to identify the relations, the extent and the short-term consequences of unmet needs in patients with high CV risk in a representative sample in primary care. This evaluation focused on the prevalence of different risk factors and their co-occurrence and the extent and quality of treatment.

Methods
Design
DETECT is a large multistage cross-sectional study of 55,518 unselected consecutive patients (59% women and 41% men; over 18 years, mean age 53.9 years) in 3,188 primary care offices in Germany (73% general medicine and 27% internal medicine) with a prospective 12-month component in a random subset of 7,519 patients, characterized additionally by an extensive standardized laboratory program with focus on CV risk assessments. Patients’ self-assessments and physicians’ assessments of each patient were obtained. The data reported are based exclusively on the laboratory subset of patients and are not yet adjusted to non-response and sampling design effects. Further details are available at http://www.detect-studie.de.

Results
For patients of the laboratory subset the point prevalence rates of risk factors were determined at the initial examination (baseline) and at one year follow-up. Diabetic and non-diabetic patients were analyzed. Table 2 summarizes the point prevalence of risk factors determined at baseline (T0) and at one year follow-up (T1).

The most prevalent risk factors for non-diabetic patients were: increased total cholesterol/low-density lipoprotein cholesterol, followed by overweight, increased blood pressure and physical inactivity. For diabetic patients the most prevalent risk factors were: overweight and increased total cholesterol/low-density lipoprotein cholesterol followed by increased triglycerides and HDL cholesterol. Total cholesterol and LDL cholesterol are important risk factors for both diabetic and non-diabetic patients. Overweight, increased triglycerides and low HDL cholesterol values are striking risk factors in diabetic patients. However, triglycerides and HDL cholesterol are less important risk factors in non-diabetic patients.

A relative change in the prevalence of risk factors after one year is indicated in Figure 2. Over the period of one year most risk factors did not change significantly except for the following: Smoking (relative reduction by 15% for non-diabetic patients and 18% for diabetic patients), physical inactivity (relative reduction by 5% for non-diabetic patients and 10% for diabetic patients), and HDL (relative reduction by 54% for non-diabetic patients and 53% for diabetic patients). Surprisingly HDL cholesterol increased dramatically (by >50%) for diabetic and non-diabetic patients. Partly this could be explained by the reduction in smoking and the increase in physical activity.

Summary
Primary care populations are characterized predominantly by a high proportion of high risk constellations, that pose considerable challenge for routine care. Only 3% of the patients had no risk factor, more than 60% of the patients had three or more risk factors and almost 20% of the patients had five or more factors.

Our results indicate that a significant proportion of patients in primary care have several risk factors and thus are at increased risk for CV events. However, the results of the one year follow-up examination show that treatment for diabetic and non-diabetic risk patients seems to be not optimal, clearly indicating the need of concerted efforts to improve treatment in primary care.

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