

### **363: Hypertension and diabetes in asymptomatic corporate members of a health plan in Brazil: A web system to detect, refer and control adherence to treatment**

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#### **Objective:**

To develop a system for actively identifying high-risk members for diabetes and cardiovascular diseases, confirming the diagnosis and achieving high adherence rates to the treatment of these patients.

#### **Methods:**

A questionnaire, based on a quantitative evaluation of risk for cardiovascular diseases and diabetes was developed. For cardiovascular diseases, the coronary risk chart for primary prevention of the Recommendations of the Second Joint Task Force of European and other Societies on Coronary Prevention (European Heart Journal (1998) 19, 1434–1503) was used. For diabetes risk, the questionnaire applied the algorithm published by Hermann et al (A New and Simple Questionnaire to Identify People at Increased Risk for Undiagnosed Diabetes - Diabetes Care Volume 18(3) March 1995 pp 382-387). This questionnaire was applied through software that was accessed via a website designed especially for this program. All data was collected through an interview. After interviewing the members, a call centre contacted those identified as being of high-risk, to schedule a visit to see a physician, either a cardiologist or an endocrinologist. Physicians were asked to provide feedback using the same web site, stating the confirmed diagnosis and the medications prescribed. Those confirmed to be at a high risk, and those diagnosed with arterial hypertension or diabetes, were followed on a long-term basis. Physicians provided further feedback about the adherence of these patients to the treatments proposed.

#### **Results:**

So far the program has been used to evaluate 45,000 members. The health risks that have been studied include: sedentary lifestyle, obesity, smoking, hypertension, diabetes and hypercholesterolemia. Although the mean age of the members interviewed is 35 years, the program found that 64% of the population studied is sedentary, 16% smoke, 14% have arterial hypertension, 9% are obese, 1% are diabetic and 6% have a cholesterol level higher than 240 mg/dl. Those that did not know about the presence of diabetes or hypertension, but were identified as being of high risk or had a pressure level above 140mmHg systolic pressure or 90mmHg diastolic pressure, were referred to a physician. 56.8% of the members identified as being at a high risk for developing diabetes whom were referred to an endocrinologist, were subsequently confirmed to be diabetic and treatment was initiated. 40% of those identified as having arterial hypertension did not know about this condition prior to their participation in the program. 65.8% of the members referred were followed for 6 months and 48% of them for 12 months.

#### **Conclusions:**

A significant number of asymptomatic people did not know their own status of cardiovascular and diabetes risks. The implementation of programs that actively identify members of a health system population is an important factor for reducing risks, preventing complications and thus positively impacting on quality of life. The integration of medical providers into the same system is a key element in achieving a high level of adherence to these programs. Such programs are made possible due to advances in information technology that allow for the simultaneous collection of data from numerous sources and the rapid evaluation of responses. In this way, risks are identified and those members found to be at risk are referred to a physician for management. Thus, the utilisation of a website as the platform for the program, is essential for the success of the program. The implementation of these programs in an occupational environment seems to have an important stimulating role to achieve high adherence rates, as employees stimulate each other in the steps to follow up. The utilisation of guidelines describing the treatment of risks is necessary to identify the best practices based on the results, and to disseminate practices so that results are maximised.