

# Heartwatch — the National Programme in General Practice for the Secondary Prevention of Cardiovascular Disease in Ireland

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## Introduction

As is the case within the international community, it is well established that morbidity and mortality from cardiovascular disease (CVD) is one of the greatest challenges facing the Irish health service. “Vascular diseases, of which cardiovascular disease is the most common, account for over 40% of all deaths and 37% of deaths under 65 years in Ireland. Within cardiovascular disease, ischaemic heart disease [IHD] is by far the most common. It alone accounts for approximately 25% of all deaths.”<sup>1,2</sup>

The European Heart Survey Programme, EuroASPIRE II, concluded: “Considerable potential to raise the standard of preventive cardiology exists throughout Europe in order to reduce coronary morbidity and mortality.”<sup>3</sup>

The rationale for an active approach to the prevention of CVD is firmly based on five observations:<sup>4</sup>

- CVD is the major cause of premature death in most European populations; it is an important source of disability and contributes in large part to the escalating costs of healthcare.
- The underlying pathology is usually atherosclerosis, which develops insidiously over many years and is usually advanced by the time symptoms occur.
- Death, myocardial infarction (MI) and stroke nevertheless frequently occur suddenly and before medical care is available. Many therapeutic interventions are, therefore, inapplicable or palliative.
- The mass occurrence of CVD relates strongly to lifestyles and modifiable physiological factors.
- Risk factor modifications have been unequivocally shown to reduce mortality and morbidity, especially in people with either unrecognised or recognised CVD.

## Implementing the National Cardiovascular Strategy

The Heartwatch Programme has been agreed by the Department of Health and Children, the Health Boards (now the Health Service Executive; HSE) and the Irish College of General

Practitioners in collaboration with the Irish Heart Foundation and is the culmination of several years of preparatory work.

The initial implementation phase focuses on secondary prevention amongst those with significant proven CVD. This is implementing the recommendations of the report of the Cardiovascular Strategy Group, *Building Healthier Hearts*,<sup>5</sup> which recommends (R6.21) that secondary prevention for most patients with CVD should be provided in the general practice setting and goes on to state (Implementation 16.3): “The Department of Health and Children, the Irish College of General Practitioners and other relevant organisations should agree and implement a scheme for secondary prevention in patients with cardiovascular disease or diabetes.”

The Heartwatch Programme sets out to tackle the problem of CVD in Ireland by establishing a strategic national approach to the implementation of internationally recognised cardiovascular prevention guidelines.<sup>6</sup>

The overall aim of Heartwatch is to reduce the morbidity and mortality of patients of the programme.

The interim objectives of the programme are:

- To examine the baseline levels of risk factors and therapeutic interventions relevant to secondary prevention and their trends over time.
- To examine the processes involved in implementing the programme, including the referral process and patient retention.
- To record the incidence of cardiovascular events in patients participating in the programme.

The set up of Heartwatch commenced in September 2002 with first patients seen in March 2003. It is currently funded for 20% of the population and involves 480 GPs throughout Ireland.

The programme implements continuing care, including secondary prevention, of patients who have had an MI, coronary artery bypass graft (CABG) or percutaneous transluminal coronary angioplasty (PTCA). Diabetes patients from the HSE-Midland Area Diabetes Structured Care Programme are also included under the Heartwatch Programme.

## Heartwatch Programme

Heartwatch provides a protocol for the continuing care of eligible patients, including a schedule of up to four general practice consultations per annum initially, and details of the risk factors to be measured, with target levels of control to be achieved.

The aims of continuing care are:

- To encourage the patient to lead as full and active a life as possible.
- To record the current status of the patient in respect of the key risk factors of smoking, blood pressure, lipids, body mass index and waist circumference.
- To review the other lifestyle issues of diet and exercise.
- To record the adequacy of diabetes control where appropriate.
- To review current medication, compliance and the need to prescribe.
- To intervene as appropriate or arrange referral for intervention by other specialist services based in the practice, the hospital or the community.

Data on 90% of patients and quarterly continuing care visits are sent electronically from the practice to the Independent National Data Centre (INDC) which was established in 2003 specifically for the programme. (Ten per cent of practices return data via paper returns, which are then input electronically.) A National Programme Centre and regional infrastructures and processes have been established to implement and manage the Heartwatch Programme.

## The INDC

The INDC is located at South Cumberland Street in Dublin, with the main system server located at a secure co-location facility based at Parkwest, Dublin. The INDC receives the data from the participant Heartwatch GP practices and is responsible for the data management aspects of the programme, including the production and dissemination of anonymised relevant data/data reports, as may be approved by the Data Management Committee, which oversees the activities of the INDC. Protocols and systems are in place to ensure that patient and GP confidentiality is maintained.

The development of phase 2 of the INDC data system was completed in 2005 and features:

- Full automation — data processing.
- Additional query functionality.
- Additional on-line facilities for Heartwatch participants and INDC administration.
- Financial reports.
- Standard GP and national clinical reports.
- Customised GP and national clinical reports.

One of the most important and innovative of these

developments is that GPs and practice users can now access Heartwatch demographic and clinical data for their own patients, as well as regional and national information automatically, once they go online to the INDC system.



Figure 1. INDC online patient analysis reports page — standard queries.

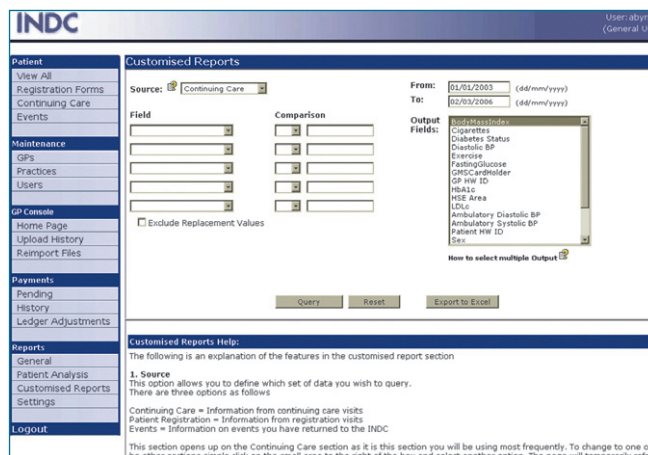


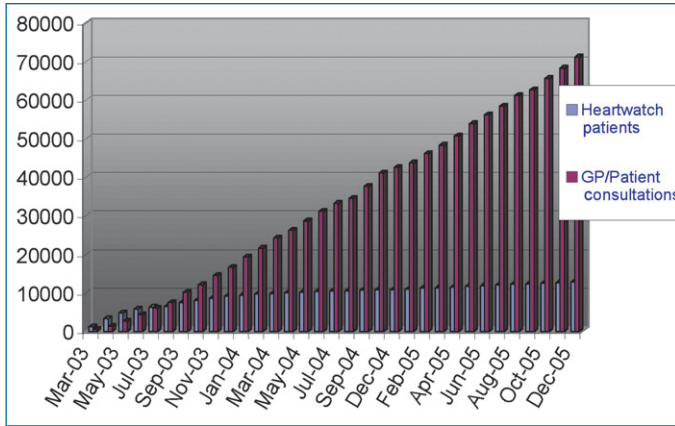
Figure 2. INDC online patient analysis reports — customised queries.

## Clinical findings and future progress

Patients involved in the Heartwatch programme have shown significant improvement in the control of certain risk factors. The data analysis has shown statistically significant improvement in the control of systolic blood pressure, diastolic blood pressure, total cholesterol, low-density lipoprotein (LDL) cholesterol and smoking.

Taking into account the age demographics and co-morbidity, as expected, the areas of body mass index, waist circumference and physical activity require a team approach on a more prolonged timescale to increase improvement.

A sub-group commissioned by the Heartwatch National Steering Committee has co-ordinated a report on further extensive independent clinical analyses which will inform on population outcomes and projections on reductions in morbidity and mortality using modelling.



**Figure 3. Heartwatch has now established the largest database on CVD within primary care in Ireland, with over 13,000 patients now registered to the programme and data collected on over 80,000 GP/patient consultations.**

**Table 1. Risk factor improvements for cohort of Heartwise patients who have attended eight consultations up to 31 July 2005 (n=2,272).**

	% Improvement
<b>Systolic BP</b>	22.8
<b>Diastolic BP</b>	47.83
<b>Total</b>	59.06
<b>Cholesterol</b>	54.32
<b>Smoking</b>	20.59
<b>Body mass</b>	0.13
<b>Exercise</b>	0.48

These results may be extrapolated to the total population eligible for secondary prevention (and possibly beyond this). The calculated number of deaths prevented or postponed and life years gained by enrolment in Heartwatch will be presented, based on analysis of the Heartwatch database. This report will be published shortly.

## Conclusion

After the independent reviews of the data from Heartwatch patients who have attended initially, the need for the strategic approach being implemented in the Heartwatch Programme and the benefits that can be achieved at such a relatively early stage in the life of the programme are clear. There is an urgency to address the need to extend this programme to the whole population and ensure that equity and access to this service is available to all patients and practices.

Furthermore, it is suggested that this programme is the template for the future management of chronic illness in primary care.

## References

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