

Periodic health examination by Austrian general practitioners: developing Patient Information Forms and Health Summary Sheets

Technical Report

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1 Introduction

Periodic Health Examinations (PHE) are executed by General Practitioners (GPs) or in the situation of Occupational Health Examinations at the worksite. In the United States of America, Canada, Australia and New Zealand PHE are still provided at the level of Primary Care. Task forces in these countries (a.o. the US Preventive Task Force, the Canadian Task Force on Preventive Health, the National Preventive and Community Medicine Committee of the Royal Australian College of General Practitioners and the New Zealand Guidelines Group) reorganised these examinations according newly developed evidence-based guidelines.

In European countries professional opinions differ about the effectiveness, usefulness and satisfaction of a periodic health examination. Together with Germany is Austria one of the only two EU countries that have a standardised PHE in the basic package of its social insurance system. Every insured person (which are nearly all citizens) from age 19 on has a right to a health examination once a year (until age 19 people fall under child and school health). The examination is done by a GP and is free at the point of delivery. GPs receive a remuneration of currently €70 for each examination. It is estimated that approximately 800.000 out of a total of approximately six million eligible Austrians per year have a PHE. Apart from the PHE, there is programmatic screening for cervical and breast cancer.

The system of this PHE was already developed in the 1970's. Since then lots of new insights into the role of GPs in monitoring the state of health of populations and into the role of periodic health examinations in enhancing the health of populations have been developed. Therefore, the current system is not based on up-to-date evidence and not fully used as an instrument in monitoring and enhancing the health of the population.

The organisation of Austrian social insurance carriers feels that the PHE still (and probably more than in the past) appeals to a demand of the insured population and wants to continue the PHE. However, at the same time there is need to re-examine the format of the PHE and to bring it in line with the latest insights in (preventive) medicine and health care. How can the current periodic health examination by Austrian general practitioners (GPs) be modernised and brought in line with the principles of evidence-based medicine? This question has been raised by the umbrella Organisation of Austrian Social Insurance Carriers.

Internationally in health care there is a movement to base both micro-level clinical decisions as well as macro-level (insurance) policy decisions as much as possible on research evidence. Over the past thirty years there has been a tremendous growth of knowledge in the field of medicine and health care. Also the possibilities to process information in health care have increased. Risk

profiling of patient groups by combining information from different sources, using electronic medical records, has a large potential in surveillance and preventive care. Where evidence lacks, international consensus or converging international experience provides grounds to rationalise decisions.

Several parties in the health care field have an interest in modernising the format of PHE in Austria. The Organisation of Austrian Social Insurance Carriers and the federal and state health authorities have a statutory responsibility for the health of the population and the quality and affordability of health care. The general practitioners have a financial interest in doing PHEs. But the most important interest is with the people who visit a GP for a PHE. They may have different reasons for doing so, but common in their reasons will be that they expect to benefit from it for their health. Currently, the PHE is not used for epidemiological research or public health information collection.

The content of the Austrian Periodic Health Examination is studied by various working groups of experts in different domains of health and health care. They will base their guidelines and policy on the available international evidence on PHE and preventive activities in Primary Health Care at the level of General Physicians.

During the process of a PHE information has to be collected from the patient to be able to establish an individual risk profile for several illnesses and to guide the physician in her or his preventive actions and diagnostic examinations. The results of the risk profiles and further examinations have to be recorded. The actual forms used in the Austrian PHE consist of a form registering the anamnesis of the patient (Anamneseblatt, figures and , p) and for males and females a separate form (Befundblatt, see figure p) to register the results of different examinations.

The modernisation of the PHE includes also the development of new forms. In the new PHE information is collected by GP's to evaluate the risk profile of the patient. Some of the information is given by the patient him- or herself on a form called the Patient Information Form (PIF) (sometimes called the Patient Risk Anamnesis). This form may be used as a Health Education Tool to give the patient feedback on his/her own health risk profile. The risk profile according to age and sex subgroups is transmitted on a Health Summary Sheet (HSS), together with the results of further examinations.

The Organisation of Austrian Social Insurance Carriers wants to develop useful efficient instruments to be used by patients and general practitioners according to the following principles:

- A form on paper will still be used; the possible development of a computer form comes at a later stage,
- Patients will put anamnestic information and information about personal risk factors on a specific form; this form will also be used as a feedback

instrument or health education tool for the patients themselves (Patient Information Form),

- The GP will register the risk profile(s) of the patient on a separate form, the Health Summary Sheet, partly based on the information given by the patient on the PIF, partly based on further examinations. The form will give indications on further screening examinations to be performed based on the newly evidence-based developed PHE policy guidelines.

This technical report advises the commissioner of the project about innovations concerning the system of PHE, more specifically about the screening questions to be asked to patients, so far as possible based on international evidence and experience with PHEs. The report is based on the relevant literature and websites on the internet, examples of PHE forms, screening instruments used in PHE and Health Interview Surveys in various parts in the world.

The main question to be addressed in this report is: How can the current periodic health examination forms used by Austrian general practitioners (GPs) be modernised and brought in line with international evidence and experience?

The main research question will be divided in two sub-questions:

- What criteria must be fulfilled for a feasible PHE instrument?
- What is the international experience with the instruments used?
- How to develop a form that combines the purposes of a screening instrument for the physician and a health education tool for the patient

The first sub-question is important, because the system and the instruments of the PHE must be feasible in a general practice context, and specifically the Austrian context. Issues to consider are the length of the PHE, possibilities (or need) to computerise it, sources of information (patients' statements, medical record, physical examination), public health use of population level information etc.

The second sub-question relates to international experience. Especially outside Europe experience has been built with PHE, either on a voluntary basis (as in the US) or on a programmatic basis (as e.g. in Australia). The international experience will be used as much as possible, but with an open eye to the specific context of Austrian general practice.

The third sub-question is about the modern approach to give feedback to the patient about his/ her own health risks, a health education approach to make the patient more responsible for his/her own health. The Patient Information Form to be developed should at the same time be useful for the physician and the patient.

The project will be done in co-operation with the Organisation of Austrian Social Insurance Carriers and the major part of the work will be done by them. The Organisation of Austrian Social Insurance Carriers contacted NIVEL because of their expertise with research and health care in General Practices, and their experience with the development of questionnaires. So, this work will only give

a partial answer to the whole issue of an evidence-based PHE and the instruments needed. The work of NIVEL was limited to certain domains of the total PHE (see methodology section) and limited to the development of screening questions at patient level. Where possible advice might be given for the development of a new questionnaire.

This report will remain technical in the sense that it presents per domain an overview and description of the available evidence found through a systematic search of literature and websites on the internet. The listed results are summarized and commented upon. Finally a selection of questions to be included in the PHE forms, will be presented. A copy of the available questions or questionnaires are brought together in an appendix for each domain.

This technical report lists a limited number of items indicating health status, disease and risk factors and the ways to measure these in a PHE. Together with the parts that are being done by the Organisation of Austrian Social Insurance Carriers itself, this report forms the reasoned outline for a renewed PHE in Austria. It can be used by the Organisation of Austrian Social Insurance Carriers to base its reasoned decision on about changes in the system of PHE.

2 Methodology

In this section we will explain the approach followed during this research process and the different steps followed:

- Framework for analysis
- Framework for collection or selection of evidence or information in general
 - Feasibility in general practice settings
 - Basic characteristics of questions to be selected
 - Comparison or development of questions
- Health Summary Sheets and Patient Information Forms
- Tasks for NIVEL and domains to be included
- Presentation of results

Framework for analysis for the Periodic Health Examination (PHE)

To be able to perform the job for which we were contacted, we needed a framework to guide our activities.

In working out a framework we distinguished three levels of abstraction. At the highest level of abstraction, one could raise the point of the public health value of a PHE, the suitability of general practice to perform PHE etc. The framework at this level of abstraction will be developed during and after the project, as a way to evaluate our activities and to communicate them to an international audience.

Here we restrict ourselves to two further levels of abstraction: the feasibility of application in general practice and the selection of information to be used in grounding our advice on the separate topics.

The contents of the forms used up to now in the Austrian PHE have to be redesigned, as much as possible based on existing evidence. The task of NIVEL in this process is to:

- < collect and summarize evidence or basic information at the level of GP's concerning periodic screening or case finding activities and examinations.
- < translate evidence into information or questions to be asked to patients on the PHE- forms

Framework per topic:

- < Collection of evidence based guidelines for PHE at GP's level (US, Canada, UK, Australia, New Zealand, Netherlands)
- < If no guidelines exist: collection of screening or case-finding evidence at GP or population level
- < Available questionnaires from different sources (see further)

Framework for development of forms:

- < Health information surveys and Health examination surveys
- < Specific screening forms / health check forms / Health Summary Sheets (US, Canada, UK, Australia, New Zealand, Netherlands)

Framework for collection and selection of evidence and information in general

The approach followed during the research was based on the methodology of a systematic review consisting of the following steps:

- A. Comprehensive and systematic searching of the evidence,
- B. Selection of the material (questionnaires and questions) based on selection criteria,
- C. Compiling the evidence.

A Searching the evidence:

The following sources of information were systematically screened, using appropriate keywords for each specific domain:

- < Scientific literature databases (PubMed, Psychinfo, NIVEL catalogue) to collect information about guidelines, forms, questions, questionnaires used in PHE and screening activities at GP/primary care/public health-level and the evaluation or validation of these items.
- < Search for questions in the European Health Information Surveys/ Health Examination Surveys database. This database covers all interview questions and protocols examinations of national health population surveys in EU member states and EFTA/ EEA countries as well as Canada, Australia and USA.
- < Websites of relevant organisations from Preventive Task Forces and similar ones and GP-organisations in the above mentioned countries (US, Canada, UK, Australia, New Zealand, Netherlands) to collect information on guidelines, HSS and PIF
- < Literature about the validation of existing questionnaires about domains to be included in the HSS and PIF.
- < Literature about the development of questionnaires.
- < Contacting experts of these organisations if needed information cannot be found or downloaded from the websites.

The commissioner of the project provided the NIVEL researchers with downloaded materials of guidelines available at different sites, especially the guidelines from the US Preventive Task Force and the Canadian Task force on Periodic Health Examination.

B Selection criteria:

The following criteria were used in the selection of questions out of questionnaires to be used in the new instruments for the PHE:

- < Feasibility in general practice settings
- < Basic criteria for development and use of questions to be asked in the population of a general practice (Streiner criteria)
- < Where questionnaires and questions are not validated, above mentioned criteria are used to compare similar questions in different questionnaires and to decide on their usefulness or to decide on a reformulation of a specific question in the context of this research

- Feasibility in general practice settings

It is of vital importance that the PHE and the HSS to record its outcomes are tuned to the situation of GPs. A few examples will make this important requirement clear. First, if information is recorded on the forms, it has to be in a way that is related to possible actions by GPs (or other health care providers). This means that subtle distinctions that have no consequence for (further) diagnostic or treatment decisions, are not necessary. A second example: in a number of fields diagnostic questionnaires have been developed. However, although these forms usually are evidence based and well validated, they are not feasible in a PHE in general practice, because they take too much time to be conducted. This is especially a problem, given the fact that the PHE addresses many different health problems and conditions.

This leads to the following general requirements:

- the information to be recorded on the PHE forms must be categorised in a way that is meaningful from the point of view of follow-up decisions by GPs;
- the information to be collected from patients must be reasonably easy to collect within the context of a PHE in general practice.

- Basic criteria for questions to be selected or to be developed (taken from Streiner, 1994)

- Questions that will be selected for the PHE should not require reading skills beyond that of a 12 year old so that patients from all educational and socio-economical levels will be able to understand the information requested.
- Ambiguity should be avoided and if a specific time frame or any other variable is called for, it should be spelled out explicitly.
- Double-barred questions should be avoided too: questions that ask two or more questions at the same time, and each of it may be answered differently.
- The same with using medical jargon: even more common terms as 'hypertension' may be misunderstood.
- Also value-laden words have to be avoided, as should negatively worded items.
- Questions should be as short as possible, without losing comprehensibility.

As the questions we selected based on these criteria are in English or into English translated from Dutch, an important task for the Austrian team remains the correct translation of these questions into German, taking the same criteria in consideration. Pre-testing of the questionnaires in the patient population of a general practice, testing wording, time, comprehensibility, flow and order of questions will be required before implementing the questionnaire in the frame of the PHE.

- *Comparison or development of questions*

As most questionnaires found were not validated, it was difficult to compare the questions used in the different questionnaires at different occasions. Final selection of the similar questions in different questionnaires is based on the mentioned criteria above. If no question respected these criteria, a new question was formulated based on the existing ones, but respecting the criteria mentioned. Questions for the PIF are put in the first person form (I-form), as was the case in certain questionnaires found during the search. As the PIF may also have health educational aims, questions put in the first person will stay closer to the patients.

A final questionnaire, PIF or HSS should be evaluated and validated in the context of a PHE with the patients at a GP practice within Austria.

Health Summary Sheets and Patient Information forms

The commissioner of this project suggested to take the Australian Health Summary Sheet as a possible reference for the development of new forms.

The following organisations were contacted by email, requesting copies of possible existing forms of HSS and PIF:

- the American Academy of Family Physicians,
- the American Board of Family Practice,
- the Royal Australian College of General Practitioners,
- the North American Primary Care Research Group,
- the Royal College of General Practitioners (UK),
- the Royal New Zealand College of General Practitioners

We contacted the WONCA contact persons of each organization and the main office and research boards of the different organisations.

<http://www.globalfamilydoctor.com/>

The North American Primary Care Research Group kindly forwarded our request on their listserver to all their members and networks.

These contacts resulted only in a copy of the Health Summary Sheet used in Australia for the Periodic Health Examination, and one used by the Occupational Health department of the Medical School in Marburg, Germany.

Tasks for NIVEL and domains to be included

An original task-list was developed by the commissioner of the contract (Appendix A). During the development of the project the following domains received first priority in agreement with the commissioner:

- Cardiovascular risk profile and risk determinants: screening of riskgroups
 - Diabetes Mellitus (risk factor screening):
 - Anamnesis for familiar history
 - Hypertension
 - BMI \geq 30
 - Anamnesis for familiar history of cardiovascular diseases in close male relatives \leq 50 years and female relatives \leq 60 years
 - Anamnesis for history of familiar hyperlipidaemia
 - Multifactorial risk profile:
 - Gender
 - Age
 - Smoking
 - Hypertension
 - Hyperlipidaemia
 - Diabetes mellitus
 - Familiar history of cardiovascular diseases
- Hearing impairment
- Vision impairment
- Glaucoma (risk factor screening)
 - Familiar glaucoma
 - Severe myopia
 - Diabetes Mellitus
 - Caucasian \geq 65 years
 - African origin (Black) \geq 40 years
- Use of sedatives and analgetics
- Mamma-carcinoma: anamnesis for familiar history

Presentation of results

The results of the steps of research mentioned above are presented at follows:

- In chapter three:
 - General results are given about the search for questionnaires, general and specific,

- Results about general questionnaires on health are presented,
 - Per domain an overview is given of the keywords used for different sources of information,
 - Per domain an overview is given of the results of the literature and website search, with URL and/or description of the result. Copies of the questionnaires found during the search are put together in appendices presented per domain.
 - Sources of the final selected questions
- Chapter four presents:
- The questions selected or developed for all the included domains
 - Part of the Patient Information Form based on the selected questions
- In chapter five:
- are copies given of the collected HSS and commented in the light of the development of new forms for the Austrian PHE
 - recommendations are given how to use the information from the PIF on the HSS, as well as information collected through further examinations.

3 Results literature search

During further contacts with the commissioner of the project, Hauptverband der Österreichischen Sozialversicherungsträger, the following domains were selected as priorities for further research: cardiovascular risk factors including obesity, hearing and vision impairment, glaucoma, use of sedatives and analgetics, and breast cancer risk factors.

General Results

While information on Guidelines in the context of Prevention are widely available, specific information on Health Information Sheets and Questionnaires is quite limited. While the need to use HSS is often mentioned in guidelines, the forms themselves are not on the net, excepted some questionnaires on specific topics in the format of a list of questions.

When some Questionnaires about the specific topics for a PHE are mentioned, they are rarely evaluated or evaluations are mentioned without showing the form itself. Databases of scientific literature may mention forms used during research or health care, but seldom give a copy of these forms or sheets. The majority of the forms found during our search for evidence, were found on the internet web-sites of specific organisations at primary and secondary health care level. Summarizing one may conclude that information about screening questionnaires for certain topics is available but no really evidence about validity, reliability or usefulness.

On the other hand, many evaluations were found about well-known standardized questionnaires on physical condition, social health and psychological health (König-Zahn, Essink-Bot), but few were useful for screening purposes in a general population at GP-level. Most of these questionnaires have a lot of questions and are designed for the purpose of research. As some of the specific questions used in these extended questionnaires may be used in a questionnaire for a PHE, we screened these general health questionnaires for this purpose (see Validated Generic Questionnaires).

As mentioned earlier, although attempts were made to contact several GP and Primary Care organisations in the US, UK, Canada, New-Zealand and Australia, to get copies from HSS and PIF used by their organisations and countries, only few organisations reacted. This resulted in copies of HSS forms used by two organisations.

Validated Generic Questionnaires

König-Zahn (1994) and Essink-Bot (1991) discussed among others the following well-known questionnaires for physical or social health: Cornell Medical Index, OECD long-term disability indicator list, RAND Functional Limitations and Physical Abilities Batteries, COOP/WONCA cards, Duke-University Health Profile, McMaster Health Index, Medical Outcome Study Short-form questionnaire, Quality of Well-Being Scale, Nottingham Health Profile, Sickness Impact Profile and some Dutch questionnaires: Questionnaire Work and Health, Questionnaire Periodic Occupational Health Examination and the List of Chronic Diseases.

As mentioned before these questionnaires are in the first place developed for research purposes, but still some questions in a few more general questionnaires may be used in the context of PHE. We screened all questionnaires and present here the ones we thought might be the most appropriate for the aim of this research.

CORNELL MEDICAL INDEX

The questions used in the CMI are simple and easy to use. The validity of the answers for specific diseases and diagnoses is low, but acceptable for an indicator of general health. It is efficient to get rapid information from the patient self, which can be deepened in communication with the doctor. Unfortunately the archivist of the Cornell Medical Index Archive in the US informed us that the CMI no longer could be used for studies of human subjects or in Periodic Health Examination Sheets. The questions are no longer valid for these purposes. So, although some of the questions in the questionnaire might have been useful, we may not use them anymore.

DUTCH QUESTIONNAIRE WORK AND HEALTH

The complete questionnaire consists of 200 questions, from which 36 are about experienced health and health attitudes. The questionnaire is easy to fill in by the patients. The questions about experienced health are internally consistent and valid (Cronbach's alpha 0.85). A translation of these questions will be given in the Appendix B.

DUTCH PERIODIC OCCUPATIONAL HEALTH QUESTIONNAIRE

Besides questions related to work and working conditions, employees are asked questions about health for a screening by the occupational health physician. The questions related to health are almost as consistent as those in the Dutch Questionnaire Work and Health (Cronbach's alpha 0.70). A translation of these questions will also be given in the Appendix B.

Specific questionnaires per domain

Per priority domain mentioned in the methodology section we will give an overview of the keywords used and the URL links to the relevant results found per search. Copies of the relevant questionnaires can be found in an appendix per domain.

I Overview cardiovascular diseases and risk factors

Keywords used in searches

Hereafter we present the keywords used during the searches in different databases

1 Search for relevant internet sites of health sheets, guidelines and questionnaires

Keywords used: periodical health examination/ screening/ cardiovascular diseases/ hypercholesterolemia/ questionnaires/ health check/ summary health sheet/ primary care

2 Search for relevant articles with health summary sheets and questionnaires in Pubmed

Keywords used: family practice/ physician, family/prevention and control/ preventive medicine/ Medical history/ Medical audit/screening/ primary care/ hypercholesterolemia/ summary health sheets/ questionnaires/ health check/ periodical health examination

3 Search for relevant articles in Psychinfo

Keywords used: health check/ periodical health examine/ general practitioners/ family-medicine/health summary sheet/screening/primary health care/ health screening/ questionnaires/ cardiovascular diseases

4 Search for articles in catalogue library NIVEL

Keywords: measuring instruments/ cardiovascular diseases

5 Search for questions in HIS/ HES database (no specific keywords used)

Results relevant literature/ websites

- Questionnaires and questions (see Appendix C)

1 Klungel OH, de Boer A, Paes AHP, Seidell JC, Bakker A. Cardiovascular diseases and risk factors in the population-based study in The Netherlands: agreement between questionnaire information and medical records. *Nether J Med* 1999;55:177-183.

Includes simple questions on cardiovascular diseases and risk factors. (Appendix C, reference 1).

2 Fullard E, Fowler G, Gray M. Promoting prevention in primary care: controlled trial of low technology, low cost approach. *BMJ* 1978;294:1080-1082.

Includes a health summary card used for this study (Appendix C, reference 2).

3 NIVEL. Questions used in the Second Dutch National Survey of General Practice

Contains among others a list of questions related to chronic diseases, smoking, obesity. (Appendix C, reference 3)

4 National Heart, Lung, and Blood Institute. National Institute of health. USA, 1995. Recommendations regarding public screening for measuring blood cholesterol. http://www.nhlbi.nih.gov/guidelines/cholesterol/chol_scr.pdf

Includes recommendations on cholesterol screening and a risk factor questionnaire. The risk factor questionnaire is a kind of checklist about conditions and risks. (Appendix C, reference 4)

5 The Affairs of Heart Committee. Columbia University Medical Center, USA. http://www.columbiasurgery.org/outreach/aoh_woman_risk.html

An online questionnaire for women to assess their own risk for heart disease and gives health educational advice per risk factor. It works also as a score list. (Appendix C, reference 5)

6 Hutchison B, Birch S, Evans E, Goldsmith LJ, Markham BA, Frank J, Paterson M. Screening for hypercholesterolaemia in primary care: randomised controlled trial of postal questionnaire appraising risk of coronary heart disease. *BMJ* 1998;316:1208-1213
<http://bmj.bmjournals.com/cgi/content/full/316/7139/1208>.

Validates a self administered postal questionnaire appraising risk of coronary heart disease and determines whether use of this questionnaire increases the percentage of people at high risk of coronary heart disease and decreases the percentage of people at low risk who have their cholesterol concentration measured. Although the questionnaire appraising coronary risk increased the percentage of people at high risk who obtained cholesterol testing, the effect was small. Most patients at risk who received the questionnaire did not respond by having a test.

The article includes the questionnaire used for this study. The questionnaire is validated and has the format of a score list giving advice on risk scores obtained.

It uses also a weight and height chart to measure BMI and a cut-off point for overweight. (Appendix C, reference 6)

7 Wood D. Joint British recommendations on prevention of coronary heart disease in clinical practice. *Heart* 1998;80:1-29.

<http://www.landlaeknir.is/Uploads/FileGallery/Kliniskarleidbeiningar/klinhjarteng.pdf>

Shows a screening pro forma suitable for use in cholesterol screening examinations. (Appendix C, reference 7)

8 The European Health Risk Monitoring Project.

<http://www.ktl.fi/publications/ehrm/product1/title.htm>

Shows questions on questionnaires that were used in national population risk factor surveys about hypercholesterolaemia, smoking, blood glucose measurement, hypertension. The following questionnaires are presented: WHO MONICA project, Risk factor monitoring project in the Netherlands, Germany and Norway, UK National Health Surveys, National Health and Nutrition Examination Survey (NHANES III) US, the Italian OEC project, FINBALT (Finland and Baltic States), German Federal Health Survey, Norwegian Age-40 programme. (Appendix C, reference 8)

9 Questions related to CVD in the HIS/ HES Database.

<https://www.iph.fgov.be/hishes>

Questions are selected related to cholesterol, blood pressure, obesity and smoking. (Appendix C, reference 9)

- Scientific literature (without questionnaires) :

10 Nigel Unwin. Implications of applying widely accepted cholesterol screening and management guidelines to a British adult population: cross sectional study of cardiovascular disease and risk factors. *BMJ* 1998;317:1125-1130.

<http://bmj.bmjournals.com/cgi/content/full/317/7166/1125>

The paper compares the implications of four widely used cholesterol screening and treatment guidelines by applying them to a population in the United Kingdom. Concludes that without evidence-based guidelines, there are problems of variation. A consistent approach needs to be developed and agreed across the United Kingdom.

11 Wilson S, Johnston A, Robson J, Poulter N, Collier D, Feder G, Caulfield MJ. Comparison of methods to identify individuals at increased risk of coronary disease from the general population. *BMJ* 2003;326:1436-1445.

<http://bmj.bmjournals.com/cgi/content/full/326/7404/1436>

Evaluates guidelines on measurement of cholesterol in the national service framework for coronary heart disease and compares alternative strategies for identifying people at high risk of coronary disease in the general population. Concludes that measuring the cholesterol concentration of everyone aged 50 years and over is a simple and efficient method of identifying people at high risk of coronary disease in the general population.

12 Hutchison B, Birch S, Evans EC, Goldsmith LJ, Markham BA, Frank J, Paterson M. Selective opportunistic screening for hypercholesterolemia in primary care practice. *J Clin Epidemiol* ; 51:817-825.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9762874&dopt=Abstract

Assesses the performance of selective opportunistic screening in a primary care group practice. The authors bring into question the effectiveness of opportunistic approaches to preventive care.

13 Lee GH, Su DHW, Su DHC, Fong ACY, Chow YH. Screening for hypercholesterolaemia in patients with other risk factors for coronary Singapore Med J 1999;40. <http://www.sma.org.sg/smj/4006/articles/4006a4.html>

Objective of the study is to determine the prevalence of hypercholesterolaemia in individuals with major risk factors of coronary heart disease and markers of hypercholesterolaemia.

They recommend screening for serum cholesterol only in those with at least 2 major risk factors of coronary heart disease in the general population between 35 and 69 years of age.

14 Walma EP, Thomas S, Prins A, Grundmeyer HGLM, Van der Laan JR, Wiersma Tj. *Huisarts en Wet* 2003; 46(8):435-49. NHG-Standaard Hypertensie (derde herziening) [Dutch: Dutch College of GP Guidelines for Hypertension, 3rd revision).

The third revision follows as much as possible the Consensus Hypertension of the Dutch Institute of Health Care and is adapted as much as possible to the situation in general practice. Changes in comparison with former versions: hypertension cut-off points decreased from 160 to 140 mm Hg systolic and from 95 to 90 mm Hg diastolic; a group of people with hypertension are not considered for treatment: only if the absolute risk for the development of cardiovascular diseases is 20% or more they will be treated. Patients older than 60 years without diabetes or familiar hypercholesterolemia will only be considered for treatment if systolic blood pressure is above 160 mm Hg. The absolute risk can be derived from a table where the cut-off for treatment of hypertension is indicated. The table presents 4 groups of patients with different colours: green, no treatment of blood

pressure or cholesterol; yellow, treatment of blood pressure if other risk factors are present; orange, treat blood pressure; red, treat blood pressure as well as cholesterol, so far as blood pressure is above 140 mm Hg (or above 160 mm Hg for people above 60 years). (see also figure 8, p.63)

See also NHG Practice guidelines: <http://www.nhg.artsennet.nl/> : Dutch guidelines for management of cholesterol and high blood pressure in primary care (prevention, identification and treatment of high blood cholesterol/ high blood pressure). English translation of guidelines is in process.

- Websites (guidelines and reports, no questionnaires):

15 National Heart foundation Australia. The cardiac society of Australia and New Zealand. Lipid Management guidelines 2001.

http://www.heartfoundation.com.au/downloads/lipid_guide_2001.pdf

Summarises current evidence to serve as a prompt for practitioners for best clinical practice and encourages consistency of care in managing plasma lipid levels to prevent CHD.

16 Canadian Task Force on Preventive Health Care.

<http://www.ctfphc.org/Abstracts/Ch54abs.htm>

Recommendations for routine cholesterol screening, drug treatments, and dietary advice on fats for asymptomatic Canadian adults.

17 The seventh report of the joint national Committee on prevention, detection, evaluation, and treatment of high blood pressure 2003, USA.

<http://www.nhlbi.nih.gov/guidelines/hypertension/express.pdf>

Guidelines for hypertension prevention and management.

18 National Institutes of Health, USA.

<http://www.nhlbi.nih.gov/health/public/heart/chol/wyntk.htm>

National Cholesterol education program from the National Institutes of Health. Gives information about cholesterol. Includes tables for men and women with points and scores to assess risk of developing heart disease or a heart attack.

19 Computerized prescription record.

<http://www.cpr.net/diseases/endocrine/hypercholesterolemia/>

Contains a lot of topics on hypercholesterolemia and 10 years risk for heart disease calculators. The website provides links to several American organisations and programmes with checklists, risk assessments, health education and software to calculate risks and others. One link refers to a questionnaire by the National

Lipid Education Council to help patients to evaluate their risk factors for heart disease.

http://www.lipidhealth.org/content/newsletter/vol6no3/newsletter_1a.pdf

20 Institute for Algorithmic Medicine (<http://www.medal.org/ans.html> - Q4)

The Medical Algorithms Project produces Excel tables about different domains. The Chapter “Predicting Risk of Coronary Heart Disease and Prevention” gives a list of Excel tables to use:

- the Framingham Heart Study Coronary Heart Disease Risk Prediction Chart (http://www.medal.org/sheets/ch6/Framingham_risk_prediction.xls),
- the New 2000 Sheffield Tables for Primary Prevention of Cardiovascular Disease in Adults ([http://www.medal.org/sheets/ch6/risk_prediction_New Zealand.xls](http://www.medal.org/sheets/ch6/risk_prediction_New_Zealand.xls)),
- the Updated New Zealand Cardiovascular Risk Prediction Charts ([http://www.medal.org/sheets/ch6/risk_prediction_New Zealand.xls](http://www.medal.org/sheets/ch6/risk_prediction_New_Zealand.xls)) or
- the Joint British Societies Coronary Risk Prediction Charts for Primary Prevention of Coronary Artery Disease ([http://www.medal.org/sheets/ch6/risk_prediction_joint British.xls](http://www.medal.org/sheets/ch6/risk_prediction_joint_British.xls))

Summary and Questions selected for development of questionnaire to cover domain Cardiovascular Diseases

Most patient questionnaires mentioned above cover the different risk factors for the development of heart diseases. Some combine the different questions into a score list to create awareness with the patient about her/his own risk (search results 5, 6). A few explain more extensively the different risk factors and what can be done about it (search result 5). Another few are more Health Summary Sheets about cardiovascular risk profiles to be used by physicians (search results 2, 7).

For the development of the Patient Information Form questions about the risk factors smoking, familiar anamnesis for heart disease, hypertension, heart disease and overweight are reformulated or combined from the questions mentioned in the search results 5 and 12. Questions about diabetes mellitus are taken from NHANES III (search result 8). (See further under chapter 4 PHE Patient Information Form.)

All questions are transposed into the first person.(see figure 3, p.46)

Reference 20 produced a number of Excel files based on various published Risk Prediction Charts for Cardio Vascular Diseases. The charts may be used to calculate the individual risk for the patient according his or her individual risk factors. The risk score can be copied to the Health Summary Sheet. An alternative is to limit the prediction to a category risk percentage as is used in several Risk Tables as the one used by the Dutch College of General Practitioners

(see reference 14; see also pages 56-57 and figure 8, page 58). This last table indicates simultaneously the risk for Coronary Heart Disease and gives indications for treatment of hypertension and hypercholesterolemia.

II Overview Obesity

Keywords used in searches

Only searches for articles in Pubmed resulted in relevant results.

Keywords used: obesity/body mass index/reproducibility of results/ health check/ periodical health examination/ identification/ diagnosis/ detection/ identification

Results relevant literature/ websites

- Scientific literature (without questionnaires) :

1 Spencer EA, Appleby PN, Davey GK, Key TJ. Validity of self-reported height and weight in 4808 EPIC-Oxford participants. *Public Health Nutr* 2002 Aug; 5(4):561-565.

To assess the validity of self-reported height and weight by comparison with measured height and weight in a sample of middle-aged men and women, and to determine the extent of misclassification of body mass index (BMI) arising from differences between self-reported and measured values. Self-reported height and weight data are valid for identifying relationships in epidemiological studies. In analyses where anthropometric factors are the primary variables of interest, measurements in a representative sample of the study population can be used to improve the accuracy of estimates of height, weight and BMI.

2 Deurenberg P, Andreoli A, Borg P, Kukkonen-Harjula K, de Lorenzo A, Marken Lichtenbelt WD, Testolin G, Vigano R, Vollaard N. The validity of predicted body fat percentage from body mass index and from impedance in samples of five European populations. *Eur J Clin Nutr* 2001 Nov; 55(11):973-979.

To test and compare the validity of a body mass index (BMI)-based prediction equation and an impedance-based prediction equation for body fat percentage among various European population groups. The prediction formulas give generally good estimates of BF% on a group level in the five population samples, except for the males from Tampere. More comparative studies should be conducted to get better insight in the generalisation of prediction methods and formulas. Individual results and classifications have to be interpreted with caution.

3 Ben Noun L, Sohar E, Laor A. Neck circumference as a simple screening measure for identifying overweight and obese patients. *Obes Res* 2001 Aug; 9(8):470-477.

There are numerous methods of assessing overweight and obesity. We undertook an observational study to test a method of identifying overweight or obese patients solely by measuring the circumference of the neck. NC measurement is a simple and time-saving screening measure that can be used to identify overweight and obese patients. Men with NC <37 cm and women with NC <34 cm are not to be considered overweight. Patients with NC > or =37 cm for men and > or =34 cm for women require additional evaluation of overweight or obesity status.

4 Nawaz H, Chan W, Abdulrahman M, Larson D, Katz DL. Self-reported weight and height: implications for obesity research. *Am J Prev Med* 2001 May; 20(4):294-298.

Self-reported weight and height are under- and over-reported, respectively, in epidemiologic studies. This tendency, which may adversely affect study operations, has not been evaluated among subjects being enrolled into a weight-loss program. Obese women who seek weight-loss assistance tend to under-report their weight and over-report their height, suggesting that self-reported data are likely to be inaccurate. Misreporting is apparently influenced by employment and disability and has the potential to complicate recruitment of subjects for research studies.

5 Deurenberg P. Universal cut-off BMI points for obesity are not appropriate. *Br J Nutr* 2001 Feb; 85(2):135-136. (see reference 6)

6 Deurenberg P, Yap M. The assessment of obesity: methods for measuring body fat and global prevalence of obesity. *Baillieres Best Pract Res Clin Endocrinol Metab* 1999 Apr; 13(1):1-11.

Fat is a normal component of the human body that is stored in adipose tissue. Obesity can be defined as a condition of excessive fat accumulation to the extent that health and well-being are affected. Body fat can be determined in vivo in different ways, using rather accurate laboratory techniques or using simple estimation techniques that can also be applied in field conditions. For population studies, the World Health Organization defines cut-off values for obesity based on the body mass index (BMI): weight/height squared (kg/m²). Generally, for adults, if the BMI exceeds 25 kg/m², a subject is considered to be overweight, and if the BMI exceeds the value of 30 kg/m², a subject is considered obese. However, the relationship between body fat percentage and BMI differs between ethnic groups, and, as a consequence, cut-off points for overweight and obesity based on BMI will have to be ethnicity specific. This means that, in some populations, the cut-off points could be lower or higher than the recommended

figures. Adapting cut-off point values will have important consequences for prevalence data in some countries as the prevalence of obesity will dramatically increase or decrease. The prevalence of obesity, in children as well as in adults, is high in many countries all over the world and is rising. Given the impact of obesity on health, this is a public health issue that needs to be addressed seriously.

7 Niedhammer I, Bugel I, Bonenfant S, Goldberg M, Leclerc A. Validity of self-reported weight and height in the French GAZEL cohort. *Int J Obes Relat Metab Disord* 2000 Sep; 24(9):1111-1118.

To examine the validity of self-reported weight and height and the resulting body mass index (BMI), and to explore the associations between demographic, socioeconomic, and health-related factors on the one hand and bias in self-reported weight and height on the other, in order to determine the groups most likely to exhibit bias. These findings suggest that self-reported weight and height should be treated with caution, because of biases leading to misclassification for overweight and obesity, especially in certain segments of the population.

8 Flood V, Webb K, Lazarus R, Pang G. Use of self-report to monitor overweight and obesity in populations: some issues for consideration. *Aust N Z J Public Health* 2000 Feb; 24(1):96-99.

To examine the validity of self-reported height and weight data reported over the telephone in the 1997 NSW Health Survey, and to determine its accuracy to monitor overweight and obesity in population surveys. Caution should be used when interpreting SR height and weight data from surveys, because BMI derived from these is likely to underestimate the true prevalence of overweight and obesity. SR data have a place in nutrition monitoring because they are relatively inexpensive and easy to collect. However, classifying people into weight categories on the basis of accepted cut-points, using SR heights and weights, yields inaccurate prevalence estimates. Periodic sub-studies of the validity of SR heights and weights are needed to indicate the extent to which the validity of SR is changing.

9 Bolton-Smith C, Woodward M, Tunstall-Pedoe H, Morrison C. Accuracy of the estimated prevalence of obesity from self reported height and weight in an adult Scottish population. *J Epidemiol Community Health* 2000 Feb; 54(2):143-148.

To determine whether self reported heights and weights from Scottish adults can provide an accurate assessment of obesity prevalence in the population. This Scottish population was unique in the under-reporting of height as well as weight, which resulted in BMI estimates with low error. These data suggest that self reported weights and heights would be satisfactory for the monitoring of obesity prevalence in Scotland.

10 Voss S, Kroke A, Klipstein-Grobusch K, Boeing H. Obesity as a major determinant of underreporting in a self-administered food frequency questionnaire: results from the EPIC-Potsdam Study. *Z Ernahrungswiss* 1997 Sept; 36(3):229-236.

The phenomenon of underreporting of dietary intake has been observed previously in many epidemiologic studies. In this study it was investigated whether dependencies exist between energy intake obtained by a semi-quantitative, self-administered food frequency questionnaire and lifestyle or anthropometric factors, particularly obesity. It is concluded that obesity is a major determinant of under-reporting. Energy adjusted dietary variables were found to be largely independent of such methodological influences.

11 Rosen JC, Jones A, Ramirez E, Waxman S. Body Shape Questionnaire: studies of validity and reliability. *Int J Eat Disord* 1996 Nov; 20(3):315-319.

The Body Shape Questionnaire (BSQ) is a useful measure of weight and shape concern. The purpose of this study is to contribute new psychometric information on the BSQ in order to assist clinicians and researchers who intend to use this measure. The BSQ demonstrated good test-retest reliability, concurrent validity with other measures of body image, and criterion validity for clinical status.

12 Roberts RJ. Can self-reported data accurately describe the prevalence of overweight? *Public Health* 1995 Jul; 109(4):275-284.

Overweight is an important public health problem affecting around 50% of the population of Wales, resulting in increased risk of illness, premature disability and premature death. The aim of this study was to examine critically the accuracy of self-reported data in describing the prevalence of overweight in Wales. The calculation of body mass index resulted in amplification of bias and underestimation of the prevalence of overweight and obesity in the study sample of 4.5% in men and 6.7% in women. The results have important implications for the use of self-reported data for the scientific measurement of the prevalence of overweight, especially in longitudinal studies, and suggest that further research should be conducted into the stability of reporting bias over time.

- Other literature founded on websites:

13 Douketis JD, Feightner JW, Attia J, Feldman WF, with the Canadian Task Force on Preventive Health Care. Periodic health examination, 1999 update: Detection, prevention and treatment of obesity.
<http://www.cmaj.ca/cgi/reprint/160/4/513.pdf>

Suggests that a) for people without obesity-related diseases, there is insufficient evidence to recommend the inclusion or exclusion of BMI-measurement as part

of a periodic health examination and therefore BMI-measurement is left to the discretion of individual health care providers, b) for people with obesity-related diseases, BMI measurement is recommended because weight reduction should be considered with a BMI of more than 27.

14 National Institutes of Health. National Heart, Lung and Blood Institute:
http://www.nhlbi.nih.gov/guidelines/obesity/ob_xsum.htm

Summarises the clinical guidelines on the identification, evaluation and treatment of overweight and obesity in adults.

15 National Institutes of Health. National Heart, Lung and Blood Institute
http://www.nhlbi.nih.gov/guidelines/obesity/ob_home.htm

Contains a lot of topics regarding obesity.

Summary and Questions selected for development of questionnaire to cover domain obesity

In general obesity is seen as a risk factor for the development of heart disease, as it is an indicator for hypercholesterolaemia. There are many doubts about the validity of BMI values based on self-reported weight and height. Especially patients at risk seem to show a tendency of underestimation. The self-reported weight and height is included in the Patient Information/Anamnesis Form as a risk factor for heart disease, as it may have some value for the purpose of health education. It seems from the literature that both measurements have to be taken for people with obesity-related diseases.

To register weight and height the questionnaire number 6, mentioned in the CVD section, was used as an example. The Patient Information Form may give a table to indicate patients if their BMI goes over the chosen cut-off point for Austria. Patients start to look at the column with their height and the corresponding weight resulting in the BMI cut-off point. (See Appendix C, reference 6 and further under Chapter 4 and Figure 1, p.46.)

III Overview Hearing Impairment

Keywords used in searches

Hereafter we present the keywords used during the searches in different databases:

1 Search for relevant internet sites
hearing impairment/ screening/ elderly

2 Search for relevant articles in pubmed
aged/ hearing test/ screening

3 Search for questions in the HIS/ HES Database
(no keywords used)

Results relevant literature/ websites

- Questionnaires and questions (see Appendix D)

1 the Hearing Handicap Inventory in the Elderly – Screening Questionnaire
found on most of the resulted websites and in articles. (Appendix D, reference 1)

2 National Institute of Aging, USA: Women’s Health and Aging Study
<http://www.nia.nih.gov/health/pubs/whasbook/chap14/chap14.htm>
Includes a hearing questionnaire which is used in the Women’s Health and Aging
Study. (Appendix D, reference 2)

3 Questions related to hearing impairment in the HIS/ HES Database.
<https://www.iph.fgov.be/hishes> (Appendix D, reference 3)

- Scientific literature (without questionnaires) :

4 Yueh B, Shapiro N, MacLean CH, Shekelle PG. Screening and management
of adult hearing loss in primary care: scientific review. JAMA 2003;289:1976-
1985.

Conclusion on screening tests:

Whispered Voice test: No reliable way to control loudness of the whispers and
robust description of interobserver variability and test-retest reliability are
lacking.

Tuning fork/ Rubbing fingers: intrinsically subject nature of these tests is a
serious limitation

HHIE-S Questionnaire: excellent accuracy in detecting hearing loss.

Audioscope: recommended by the Canadian Task Force on Preventive Health
Care

The HHIE-S (functional loss) and the audioscope (physiological loss) screen
different aspects of hearing loss. It is unclear whether the HHIE-S or the
audioscope is likely to be more successful in detecting hearing loss.

5 Eekhof JA, de Bock GH, de Laat JA, Dap R, Schaapveld K, Springer MP. The whispered voice: the best test for screening for hearing impairment in general practice? *Br J Gen Pract.* 1996 Aug; 46(409):473-4.

In this study the diagnostic value of four simple test for screening for hearing loss in the elderly in general practice was examined. Conclusion: The whispered voice test can be a valuable test to identify people with hearing loss in general practice when paying attention to the loudness of the whispering.

6 Gates GA, Murphy M, Rees TS, Fraher A. Screening for handicapping hearing loss in the elderly. *J Fam Pract.* 2003 Jan; 52(1):56-62.

The HHIE-S questionnaire was compared with 1 global question (“ Do you have a hearing problem now?”) for screening for unrecognized handicapping hearing loss in the elderly. Conclusion: The global measure of hearing loss was more effective than the detailed questionnaire in identifying older individuals with unrecognized handicapping hearing loss.

7 Lichtenstein MJ, Bess FH, Logan SA. Validation of screening tools for identifying hearing-impaired elderly in primary care. *JAMA* 1988; 258:2875-2878.

The audioscope and HHIE-S are valid, reliable, inexpensive tools for detecting hearing impairment in the elderly.

8 Pirozzo S, Papinczak T, Glasziou P, Whispered voice test for screening for hearing impairment in adults and children: systematic review *BMJ* 2003;327:967.

<http://bmj.bmjournals.com/cgi/content/abridged/327/7421/967>

Concludes that whispered voice test is a simple and accurate test for detecting hearing impairment.

9 Macphee GJ, Crowther JA, McAlpine CH. A simple screening test for hearing impairment in elderly patients. *Age Ageing* 1988;17:347-351.

<http://ageing.oupjournals.org/cgi/content/abstract/17/5/347>

Concludes that Free-field voice testing appears a simple, reliable and reproducible test for detecting hearing impairment in elderly patients.

10 Eekhof JAH, De Bock GH, Schaapveld K, Springer MP. Screening for hearing and visual loss among elderly with questionnaires and test: which method is the most convincing for action. *Scan J Prim Health Care* 2000;18:203-207.

Hearing loss according to the whispered voice test compared to two questions (problems with hearing conversation with 1 person/ conversation with 3 persons

or more). Concludes that when in a screening program with simple instruments for hearing loss the choice has to be made between questionnaire and test, the test will be the best choice.

- Websites (guidelines and reports, no questionnaires):

11 Pharmaceutical Pfizer

http://www.pfizer.com/download/health/pubs_acove_new_hearing.pdf

Facts about hearing impairment in older adults.

The portable Audioscope appears to be the best objective screening tool for hearing loss among elderly. Hearing loss can also be quickly and easily detected with the HHIE-S questionnaire. This information is an interim result of a funded three-year collaboration between Pfizer and RAND to measure and improve the quality of care provided for older Americans (February 2000).

12 Virtual Naval Hospital: Put Prevention Into Practice: Clinician's Handbook of Preventive Services, 2nd Edition: Adults and Older Adults -- Screening

<http://www.vnh.org/PreventionPractice/ch35.html>

Includes recommendations of major authorities and basics of hearing screening.

Summary and Questions selected for development of questionnaire to cover domain hearing impairment

Simple tests in the literature that detect hearing loss:

- audioscope
- self-administered questionnaire, the Hearing Handicap Inventory for the Elderly screening version (HHIE-S): a 10-item 5-minute questionnaire that measures the degree of social and emotional handicap from hearing loss
- global question of hearing loss
- free-field voice testing/ whispered voice test
- rubbing fingers near the ear
- using a tuning fork

One 'scientific' review discusses the reliability of the Whispered Voice Test. That study cannot make any distinction between the test and the audioscope for screening purposes (reference 4). A systematic review on the other hand concludes that the test is simple and accurate in adults and children (reference 8).

Following reference 10, we decided to include one question about hearing impairment, as screening instrument to select patients for the Whispered Voice Test. The question selected comes from the UK National Household Survey 2002 (combination of 2 questions) (reference 3).

IV Overview vision impairment

Keywords used in searches:

Hereafter we present the keywords used during the searches in different databases:

1 Search for relevant internet sites

visual impairment/ vision loss/ screening/ questionnaire

2 Search for relevant articles in pubmed

Aged/ vision screening/ questionnaires

3 Search for relevant articles in psychmed

questionnaires/ vision/ vision disorders/ visual acuity

4 Search for articles in catalogues library NIVEL

measure instruments/ vision

5 Search for questions in HIS/ HES database

(no keywords)

Results relevant literature/ websites

- Questionnaires and questions (see Appendix E)

1 National Institute of Aging, USA: Women's Health and Aging Study

<http://www.nia.nih.gov/health/pubs/wahasbook/chap14/chap14.htm>

(Appendix E, reference 1)

Includes a vision questionnaire used in the Women's Health and Aging Study.

2 Snellingen T, Shrestha BR, Gharti MP, Shrestha JK, Upadhyay MP, Pokhrel RP. Socioeconomic barriers to cataract surgery in Nepal: the south Asian cataract management study Br J Ophthalmol 1998;82:1424-1428 (December).

<http://bjo.bmjournals.com/cgi/content/full/82/12/1424> (Appendix E, reference 2)

Includes a visual function questionnaire. These questions were asked to non-acceptors of cataract surgery 1 year after an offer to undergo surgery.

3 Lighthouse International, USA

http://www.lighthouse.org/aging_vision/summer2002/serious_vision_impairment.htm (Appendix E, reference 3)

A self administered questionnaire that identifies functional changes in the individual's sight.

4 Lighthouse International, USA

http://www.lighthouse.org/bigtype/functional_vision.htm

(Appendix E, reference 4)

A functional vision screening questionnaire for older people from Lighthouse international.

5 Virtual Naval Hospital <http://www.vnh.org/PreventionPractice/ch45.html>

(Appendix E, reference 5)

Includes recommendations of major authorities, basics of vision screening and a visual impairment questionnaire. The questionnaire is a standardized, self-administered questionnaire that can help identify individuals needing evaluation of their vision.

6 The Medical Algorithms Project: <http://www.medal.org/ch19.html>

(Appendix E, reference 6)

Includes the VF-14 questionnaire to measure functional impairment on patients due to cataracts.

7 Questions related to visual impairment in the HIS/ HES Database.

<https://www.iph.fgov.be/hishes> (Appendix E, reference 7)

- Scientific literature (without questionnaires) :

8 Eekhof JAH, De Bock GH, Schaapveld K, Springer MP. Screening for hearing and visual loss among elderly with questionnaires and test: which method is the most convincing for action. Scan J Prim Health Care 2000;18:203-207.

Visual loss according to the Snellen and low vision charts compared to two questions (difficulty recognizing a face/ difficulty reading letters). Concludes that when in a screening program with simple instruments for visual loss the choice has to be made between questionnaire and test, the test will be the best choice.

- Websites (guidelines and reports, no questionnaires):

9 Lighthouse International, USA

http://www.lighthouse.org/research_screening.htm

Validation of the functional vision screening questionnaire for older people from Lighthouse international. Questionnaire was administered to the patient population of an ophthalmologist whose practice includes low vision. At a cut-off

score of 9 (reporting problems in at least 9 of 15 items), sensitivity was 0.72 and specificity was 0.94.

U.S. Preventive Service Task Force recommends routine vision screening with Snellen acuity testing for elderly persons and suggests that selected questions about vision may also be helpful in detecting vision problems in elderly persons, but they do not appear as sensitive or specific as the direct assessment of acuity.

Canadian Task Force on the Periodic Health Examination recommends screening with Snellen visual acuity chart for elderly persons but cannot determine whether any simple question has a high sensitivity for detecting eye disease.

Summary and Questions selected for development of questionnaire to cover domain vision impairment

Also for vision impairment, the literature suggests that a test – usually the Snellen acuity testing chart – is needed during a PHE, questions may be helpful for a first selection. The question in the Patient information Form was selected from the Australian or US National Household Survey 2001 (reference 7).

V Overview glaucoma

Keywords used in searches

Hereafter we present the keywords used during the searches in different databases:

1 Search for relevant internet sites

glaucoma/ risk assessment/ risk identification/ risk factors/ screening/ questionnaire/ periodical health examination

2 Search for relevant articles in pubmed

glaucoma/ questionnaires/ risk assessment/ risk factors

3 Search for relevant articles in psychmed

questionnaire(s)/ glaucoma

4 Search for articles in catalogues library NIVEL

glaucoma

5 Search for questions in HIS/ HES database

(no results)

Results relevant literature/ websites

- Questionnaires and questions (see Appendix F)

1 Prevent Blindness America

http://www.preventblindness.org/eye_tests/glaucoma.html

(Appendix F, reference 1)

A questionnaire to assess if someone is at higher risk for glaucoma.

2 Institute for Algorithmic Medicine, USA: The Medical Algorithms project

<http://www.medal.org/ch19.html> (Appendix F, reference 2)

Includes a glaucoma symptom scale and a risk factor count of glaucoma in a patient with ocular hypertension.

- Websites (guidelines and reports, no questionnaires):

3 Glaucoma foundation

<http://www.glaucomafoundation.org/docs/PatientGuide.pdf>

A patient guide from the glaucoma foundation.

4 U.S. Preventive Services Task Force.

<http://cpmcnet.columbia.edu/texts/gcps/gcps0044.html>

Screening for glaucoma: recommendations from the U.S. Preventive Services Task Force.

Summary and Questions selected for development of questionnaire to cover domain glaucoma

The US Prevent Blindness America Programme (reference 1) has 9 screening questions to screen risk profiles for the development of glaucoma.

Diabetes, gender, age and probably ethnicity are questions or information that will be included elsewhere in the PIF. We included one additional question from this list of screening questions about familiar risk anamnesis and one question asking about a risk factor – severe myopia -mentioned in the manual for the PHE developed by the commissioner of this project.

VI Use of analgetics, sleeping drugs

Searches

As it was not feasible to limit the literature search to specific scientific literature about this domain focusing on screening questions and questionnaires, we limited the search to the websites.

1 European Health Risk Monitoring project

<http://www.ktl.fi/publications/ehrm/product1/title.htm>

(Appendix G, reference 1)

Gives an overview of questions used in national population risk factor surveys.

2. Health Information and Examination Surveys mentioned in the HIS/HES database (<https://www.iph.fgov.be/hishes>) (Appendix G, reference 2).

3 Face to face interview, Netherlands

<http://www.iph.fgov.be/epidemie/epien/crospen/hisen/his97en/his12.pdf>

(Appendix G, reference 3)

Questions about the use of medicines used in health interview survey.

Summary and Questions selected for the development of questionnaire to cover domain analgetics and sleeping drugs

We selected questions mentioned in the Canadian Community Health Survey cycle 2000 mentioned in reference 2.

VII Overview breast cancer

Keywords used in searches

Hereafter we present the keywords used during the searches in different databases:

1 *Search for relevant internet sites*

cancer/ questionnaire/ family risk/ screening/ periodical health examination/ breast cancer

2 *Search for relevant articles in pubmed*

questionnaires/ mass screening/ screening/ family risk/ family history/ cancer

3 *Search for relevant articles in psychmed*

questionnaire/ cancerscreening

4 Search for articles in catalogues library NIVEL
measure instruments/ cancer

5 Search for questions in HIS/ HES database
(no results)

Results relevant literature/ websites

- Questionnaires and questions (see Appendix H)

Questions/ literature related to family history of cancer in general

1 Scottsdale Healthcare
<http://www.shc.org/hi/pdf/GeneticRiskAssess703141003.pdf>
(Appendix H, reference 1)

A questionnaire from the Scottsdale Healthcare to consider genetic counselling.

2 Emory Clinics
http://www.emoryhealthcare.org/departments/genetics/patient_info/Cancer_History_Form-.pdf
(Appendix H, reference 2)

A cancer genetic screening questionnaire used by Emory Clinics for genetic consultation.

3 The M.D. Anderson Cancer Center Risk Assessment Clinic.
<http://www3.mdanderson.org/prevention/BROV3.pdf>
(Appendix H, reference 3)

A questionnaire to assess family history of cancer used by The M.D. Anderson Cancer Center Risk Assessment Clinic.

4 New York State Department of Health.
<http://www.health.state.ny.us/nysdoh/cancer/obcancer/append11.htm>
(Appendix H, reference 4)

A cancer family history questionnaire used by New York State Department of Health.

5 Bio Analogics
<http://www.bioanalogics.com/download/pdf/HRA-Q.pdf>
(Appendix H, reference 5)

A lifestyle questionnaire from Bio Analogics with non-controllable risk factors, cancer warnings and tobacco-consumption.

6 Pinsky PF, Kramer BS, Reding D, Buys S. Reported family history of cancer in the prostate, lung, colorectal and ovarian cancer screening trial. *Am J Epidemiol* 2003;157:792-799. (Appendix H, reference 6)

Contains questions on the baseline questionnaire of the prostate, lung, colorectal and ovarian cancer screening trial that were related to family history of cancer.

Questions to assess risk for developing breast cancer

7 FOX CHASE Cancer Center

http://www.fccc.edu/clinical/cancer_risk.html

(Appendix H, reference 7)

A questionnaire from the FOX CHASE Cancer Center to assess your cancer risks. Includes questions to identify persons at increased risk of developing breast cancer.

8 Women's Cancer network

<http://www.wcn.org/interior.cfm?diseaseid=13&featureid=3>

(Appendix H, reference 8)

A questionnaire from the Women's Cancer network to assess risk level for developing breast cancer, ovarian cancer, endometrial cancer, cervical cancer, vulvar cancer and vaginal cancer.

9 National Breast Cancer Centre

http://www.nbcc.org.au/resources/documents/BFT_familyhistory.pdf

(Appendix H, reference 9)

A questionnaire from the National Breast Cancer Centre to assess risk for developing breast cancer.

10 Group Health Cooperative's Center for Health Studies

<http://www.centerforhealthstudies.org/surveillanceproject/data-collection-instruments/bsrr/bsrr-in-clinic.pdf>

(Appendix H, reference 10)

A questionnaire from the Group Health Cooperative's Center for Health Studies to assess risk of getting breast cancer.

11 University of Virginia Cancer Center for breast and ovarian cancer.
<http://www.healthsystem.virginia.edu/internet/cancer/breastquestionnaire.cfm>
(Appendix H, reference 11)

A genetics questionnaire from the UVa Cancer Center for breast and ovarian cancer.

12 Breast Cancer Surveillance Consortium.
<http://breastscreening.cancer.gov/ptlong5.pdf>
(Appendix H, reference 12)

A questionnaire given to women when they come for a mammogram at the Breast Cancer Surveillance Consortium.

- Scientific literature (without questionnaires) :

13 Leggatt V, Mackay J, Yates JRW. Evaluation of questionnaire on cancer family history in identifying patients at increased risk in general practice. *BMJ* 1999;319:757-758.

http://bmj.bmjournals.com/cgi/content/full/319/7212/757?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=1&author1=leggatt,+V&title=cancer&andorexacttitle=and&andorexacttitleabs=and&andorexactfulltext=and&searchid=1074092269420_8525&stored_search=&FIRSTIN

- Websites (guidelines and reports, no questionnaires):

However these questionnaires were not included because they measure general health and were thus too general.

14 http://www.inglewoodhospital.com/BreastCenter/Risk_Assesment.html

Includes a Health Risk Assessment Questionnaire consisting in a Part I-Patient information and a Part II-Family medical history.

15 http://www.covhealth.org/stellent/groups/public/documents/www/cov_014095_hcsp

A questionnaire for CT screening Center participants

16 <http://www.ama-assn.org/ama/pub/article/2380-2844.html>

Includes a questionnaire to rule out a condition that may have developed later in life, which may or may not have been inherited.

Summary and Questions selected for development of questionnaire to cover domain

All sites mention questionnaires and the required questions are present in one or other format in all questionnaires.

Questions from questionnaires 7 – US FOX CHASE Cancer Center - and 9 - National Breast Cancer Centre in the US - were selected and combined for the screening of familiar history of breast cancer.

4 PHE Patient Information Form: Overview of Selected Questions

In chapter 3 the results of the literature search for the different tasks were presented and summarized. In this chapter the selected questions from the questionnaires and literature mentioned in the previous chapter will be used to develop a Patient Information Form. The Patient Information Form will guide the physician in evaluating the individual risk for the patient to have or to develop a certain illness. The PIF is intended to give feedback to the patient on several individual risks and give recommendations for prevention.

The present Austrian PHE-programme for adults uses various types of forms: the Anamneseblatt for adults of both gender and one specific form for women concerning gynaecological problems. Results of clinical and blood examinations as well as risk factors for several diseases are recorded on the Befundblatt (see chapter 5), one for both gender and again one specific form for women. The Anamneseblatt gives space for three successive examinations (Figure 1 and 2). The Anamneseblatt will be replaced by a new to be developed Patient Information Form (figure 3), that will combine two functions: the collection of anamnestic and risk profile information and feedback of different risk profiles to the patient.

Remarks regarding the development of the Patient Information Form

- The form should be designed as practical as possible to be filled in by patients self at an education level of 12 years old so that all adult patients from all education levels and socio-economical levels may use the form without difficulties.
- Questions on emotional or sensitive issues should stay at the end of the questionnaire: e.g. questions about drug use and family history of cancer.
- Start the questionnaire with the least sensitive questions: e.g. hearing and vision questions.
- Client will keep one duplicate of the questionnaire for the purpose of health education and feed-back tot the client. The new to be designed form will provide the patient with information on her/his risk profile for cardiovascular diseases.
- Some questions give the patient the possibility to indicate that she/he does not know the answer to that question. This avoids discussion if the patient might have forgotton to tick the right box when no box is ticked on the PIF. It gives the GP the possibility to prone for information, or to decide to still go for testing or not.
- If the PIF could be developed electronically, it might be connected to the Health Summary Sheet by providing patient risk profiles to urge the physician

Figure 1 -Austrian HSS: Anamneseblatt, front view

VORSORGEUNTERSUCHUNG DER ÖSTERREICHISCHEN SOZIALVERSICHERUNG **A**
PROGRAMM FÜR MÄNNER UND FRAUEN AB DEM VOLLENDETEN 19. LEBENSJAHR

Name und Geburtsdatum des Probanden: _____

Datum der Untersuchungen: 1. Unters.: _____ 2. Unters.: _____ 3. Unters.: _____

ANAMNESEBLATT

	1 Untersuchung	2 Untersuchung	3 Untersuchung
Waren Sie bereits einmal bei der Vorsorgeuntersuchung			
Herzinfarkte bei Blutsverwandten			
Kreislauferkrankungen bei Blutsverwandten			
Zuckerkrankheit bei Blutsverwandten			
Fühlen Sie sich derzeit krank (wenn ja, warum)			
STEHEN BZW. STANDEN SIE IN BEHANDLUNG WEGEN (GGF. SEIT):			
hohem Blutdruck			
Herzinfarkt			
andere Herz-/Kreislaufkrankungen, Schlaganfall			
Lungenerkrankungen			
chronischer Bronchitis			
chronischem Harnwegsinfekt			
Krebs			
Zuckerkrankheit			
FRÜHERE ERKRANKUNGEN ODER OPERATIONEN (WENN JA, WANN):			
Magen- oder Zwölffingerulcusgeschwür			
Magenoperation			
Gallenblase: Entzündung, Stein oder Kalk			
Gallenblasenoperation			
Erkrankung der Leber (Gelbsucht)			
Sonstige Operationen			
REGELMÄSSIGE EINNAHME VON:			
Schlaf-, Beruhigungs- oder Schmerzmitteln			
sonstigen Medikamenten			
TABAKRAUCHEN:			
Nichtraucher (ggf. seit)			
Raucher			
bis 20 Zigaretten pro Tag			
mehr als 20 Zigaretten pro Tag			
Pfeife, Zigarren, Zigarillos			
ALKOHOLISCHE GETRÄNKE:			
gelegentlich			
regelmäßig			

Figure 2 - Austrian HSS: Anamneseblatt, adults (rear view)

BELASTUNG AM ARBEITSPLATZ DURCH:		JA	NEIN	WENIGER
schwere körperliche Arbeit, Nacht-, Schicht-, Akkordarbeit				
a) Witterung, b) Hitze, c) Zug				
Lärm				
e) Staub, b) Gase, c) Geruch, d) Chemikalien				
dauerndes: a) Stehen, b) Gehen				
a) Konzentration, b) Gefahr, c) Verantwortung				

ANAMNESEBLATT

Üben Sie einen Nebenberuf aus

SUBJEKTIVE ERSCHEINUNGEN:

Sind Sie nervös, ängstlich, überlässig, überfordert

Haben Sie Schlafstörungen

Haben Sie Atemnot bei körperlicher Belastung (Treppesteigen)

Wachen Sie wegen Atemnot auf

Haben Sie nächtlichen Harndrang

Sind Ihre Beine abends geschwollen

Haben Sie Schmerzen in den Waden, die sich beim Gehen verstärken

Beschwerden in der Herzgegend, Herzjagen, Herzstößen, Herzschmerzen

Haben Sie Gelenk- oder Muskelschmerzen

Bronchialasthma, ständig wiederkehrender Auswurf

Häuslichkeit

Hat sich in der letzten Zeit der Hustencharakter geändert

Schluckbeschwerden

Appetitlosigkeit

Haben Sie in letzter Zeit ungewollt abgenommen

Beschwerden in der Magengegend, nüchtern/nach dem Essen

Widerwillen gegen Speisen, Völlegefühl, Ekel

Besteht eine Verstopfung

Haben Sie häufig Durchfall

Haben sich die Stuhlgewohnheiten geändert

Haben Sie am Stuhl Blut oder Schwarzfärbung (Teerstuhl) bemerkt

Beschwerden beim Urinieren, trüber, überliechender Harn

Haben Sie im Urin Blut bemerkt

Haben Sie ein Muttermal, das eher dunkel ist, wächst oder blutet

Bestehen sonstige Hautveränderungen

Bestehen andere Beschwerden, nach denen nicht gefragt wurde

Anmerkungen:

Dieses Blatt kann nach Bedarf als Checkliste verwendet oder probandenzugunsten ausgefüllt werden. Die Anmerkung bei der Untersuchungsstelle oder die Weitergabe an den behandelnden Arzt oder den Probanden bleibt der Untersuchungsstelle überlassen.

to the right action to be undertaken based on the patient characteristics and the patient information provided on the PIF.

Questions developed by NIVEL according the Austrian manual for the PHE

1. *Questions to select for screening Total Cholesterol and HDL-cholesterol for the age-group 20 to 40 years, develop risk profile for CHD or select for screening Blood glucose*

1.1 *Smoking:*

- I smoke:

- Yes (1 POINT) No

1.2 *Diabetes mellitus:*

- I have been told I have diabetes or sugar diabetes (not including pregnancy)

- Yes (1 POINT) No I do not know

- For women: during pregnancy I have been told I have diabetes or sugar diabetes:

- Yes No I do not know

- I am now taking

- insulin (injections) Yes No
 - oral pills to lower blood sugar Yes No
- (also called oral agents or oral hypoglycaemic agents)

- I have a blood relative with diabetes mellitus

- Yes No I do not know

1.3 *Familiar anamnesis for heart disease* (male family members \leq 50 yrs; female family members \leq 60 yrs):

- I have/ had a father/brother 50 years or younger or a mother/sister 60 years or younger with heart disease (not including heart valve problems) or who died from it

Yes No I do not know

- I have/ had a blood relative with high blood cholesterol

Yes No I do not know

If one of both answers is yes: (1 POINT)

1.4 *Hypertension:*

- I have hypertension (blood pressure $>$ 140/90 or currently taking medication for hypertension):

Yes (1 POINT) No I do not know

1.5 *Heart disease:*

- I had a heart attack or I have been told that I have coronary heart disease or angina (pectoris):

Yes (1 POINT) No I do not know

1.6 *Overweight: BMI \geq 30:*

- My length = cm - My weight = kg

See chart according your length: if my weight is minimal the weight mentioned on the chart, my Body Mass Index (BMI) is 30 or higher :

Yes (1 POINT) No

Please add your points: points.

If you score is 2 or more your cholesterol should be checked.

The higher your score the more risk for a high bloodcholesterol level and the more risk to develop a heart attack within the next ten years .

A score of one or none means you are at low risk of having a heart attack within the next ten years . Here are some tips to help you can maintain you low risk status:

- Eat a healthy well balanced diet, low in fat and cholesterol
- Exercise regularly
- Maintain a health weight

2. *Questions for Hearing Impairment*

- I have difficulties with my hearing (even when using my hearing aid if needed):

Yes No

3. *Questions for Vision Impairment*

- I have difficulties with my sight (even when wearing my glasses or contact lenses, if needed):

Yes No

4. *Questions for Glaucoma*

- I need strong glasses or contact lenses to be able to correct my vision at a distance

Yes No I do not know

- I have/ had a blood relative with glaucoma

Yes No I do not know

5. *Questions about use of sedatives / analgetics*

- In the past 2 weeks I took:

- A pain reliever (such as aspirin, [other used in Austria]) Yes No
- A tranquilizer (such as Valium, [other used in Austria]) Yes No
- A sleeping tablet (such as [common used in Austria]) Yes No

6. *Questions for screening family history of Mammacarcinoma*

- I have/ had a female blood relative who has/had breast cancer:

Yes No I do not know

- I have/ had at least one first-degree relative (mother, sister or daughter) who has/ had breast cancer:

Yes No I do not know

7. *Question for screening family history of melanoma*

- I have/ had at least one first-degree relative (parent, brother, sister or child) who has/ had skin cancer (melanoma):

Yes No I do not know

8. *Question for screening family history of any type of other cancers*

- I have/ had at least one first-degree relative (parent, brother, sister or child) who has/had any type of other cancers (lung, intestines, blood, gynaecological,..):

Yes No I do not know

If yes, please specify:

First-degree relative (parent, brother, sister or child)	Type of cancer
<hr/>	

9. *General questions about acute and chronic diseases*

- during the last 2 months I had the following acute disease(s) [please cercle the correct answer]: cold, influenza, acute bronchitis, pneumonia, infection of kidneys or urine tract, diarrhoea, vomiting, gastric ulcer or other [specify]:

- I have/had the following chronic disease(s) [please cercle the correct answer]: cerebral attack or bleeding, heart attack or other heart disease, cancer, depression, migraine or regularly severe headache, asthma, chronic bronchitis, emphysema, CARA, chronic eczema, dizziness with falls, severe illnesses of intestines, incontinence, severe backache, attrition of the joints, chronic infection of the joints, chronic illness of the extremities or other chronic disease [please specify]:

Hereafter the above selected questions are put in the format of a designed questionnaire in figure 1, limited to those questions. Patient basic characteristics (name, date of birth or age, gender, and maybe ethnicity) and possible other questions can be added. Other specific designs for paper or electronic PIF can be seen in the various appendices. The most efficient way to work with the PIF would be an electronic link between PIF and HSS, whereby a patient risk profile would be automatically generated based on the patient characteristics and answers from the patient to the questions in the PIF.

Figure 3- Patient Information Form (limited form) developed by NIVEL

1. I smoke:

- Yes (1 POINT)
- No

2. I have been told I have diabetes or sugar diabetes (not including pregnancy):

- Yes (1 POINT)
- No
- I do not know

3. For women: during pregnancy I have been told I have diabetes or sugar diabetes:

- Yes
- No
- I do not know

4. I am now taking :

- insulin (injections):
 - Yes
 - No
- oral pills to lower blood sugar:
(also called oral agents or oral hypoglycaemic agents)
 - Yes
 - No

5. I have a blood relative with diabetes mellitus

- Yes [*DIABETES RISK I*]
- No
- I do not know

6. I have or had a father/brother 50 years or younger or a mother/sister 60 years or younger with heart disease (not including heart valve problems) or who died from it:

- Yes
- No
- I do not know

7. I have or had a blood relative with high blood cholesterol

- Yes
- No
- I do not know

If answer 6 or 7 is yes: (1 POINT)

8. I have hypertension (blood pressure > 140/90 or currently taking medication for hypertension):

- Yes (1 POINT) [*DIABETES RISK 2*]
- No
- I do not know

9. I had a heart attack or I have been told that I have coronary heart disease or angina (pectoris):

- Yes (1 POINT)
- No
- I do not know

10. My length = cm

11. My weight = kg

See chart according your length: if my weight is minimal the weight mentioned on the chart, my Body Mass Index (BMI) is 30 or higher :

- Yes (1 POINT) [*DIABETES RISK 3*]
- No
- I do not know

Please add your points: points.

If you score is 2 or more your cholesterol should be checked.

The higher your score the more risk for a high blood cholesterol level and the more risk to develop a heart attack within the next ten years .

A score of one or none means you are at low risk of having a heart attack within the next ten years . Here are some tips to help you can maintain you low risk status:

- Eat a healthy well balanced diet, low in fat and cholesterol
- Exercise regularly
- Maintain a health weight

Please add your *DIABETES RISKS* (QUESTIONS 5,8,11): risk points.

Your physician will assess your risk to develop diabetes.

12. I have difficulties with my hearing (even when using my hearing aid if needed):

- Yes
- No

13. I have difficulties with my sight (even when wearing my glasses or contact lenses, if needed):
- Yes
 - No
14. I need strong glasses or contact lenses to be able to correct my vision at a distance
- Yes
 - No
 - I do not know
15. I have a blood relative with glaucoma
- Yes
 - No
 - I do not know
16. In the past 2 weeks I took:
- A pain reliever (such as aspirin, [other used in Austria])
 - Yes
 - No
 - A tranquilizer (such as Valium, [other used in Austria])
 - Yes
 - No
 - A sleeping tablet (such as [common used in Austria])
 - Yes
 - No
17. I have a female blood relative who had/has breast cancer:
- Yes
 - No
 - I do not know
18. I have at least one first-degree relative (mother, sister or daughter) who had/has breast cancer:
- Yes
 - No
 - I do not know
19. I have/ had at least one first-degree relative (parent, brother, sister or child) who has/ had skin cancer (melanoma):
- Yes
 - No
 - I do not know

20. I have/ had at least one first-degree relative (parent, brother, sister or child) who has/had any type of other cancer (lung, intestines, blood, gynaecological,...):

If yes, please specify:

First-degree relative (parent, brother, sister or child)	Type of cancer
_____	_____
_____	_____
_____	_____

21. During the last 2 months I had the following acute disease(s) [please encircle the correct answer(s)]:

- cold,
- influenza,
- acute bronchitis,
- pneumonia,
- infection of kidneys or urine tract,
- diarrhoea,
- vomiting,
- gastric ulcer or
- other [specify]:

22. I have/had the following chronic disease(s) [please encircle the correct answer(s)]:

- cerebral attack or bleeding,
- heart attack or other heart disease,
- cancer,
- depression,
- migraine or regularly severe headache,
- asthma,
- chronic bronchitis,
- emphysema,
- CARA,
- chronic eczema,

dizziness with falls,
severe illnesses of intestines,
incontinence,
severe backache,
attrition of the joints,
chronic infection of the joints,
chronic illness of the extremities or
other chronic disease [please specify]:

5 Health Summary Sheets

In chapter 4 the Patient Information Form was developed based on the questions and questionnaires found in the literature and on various websites in different countries. In this chapter recommendations will be given for the development of the Health Summary Sheet by using the information and risk scores given by the PIF.

The present Austrian PHE-programme records results of clinical and blood examinations as well as risk factors for several diseases on the Befundblatt, one for both gender and one specific form for women. The Anamneseblatt gives space for three successive examinations (Figure 1 and 2). The Befundblatt (Figure 4) has three copies, one for the physician, one for the health insurance company and one for the patient.

The new to be set up evidence-based system of PHE wants the forms to be based on evidence-based guidelines following international PHE and screening policies, and to use newly designed forms that would reflect this approach. To set up a more efficient system – to save time and money – and to simultaneously provide health education to the patients, the new forms should be divided in a Patient Information Form (Chapter 4) and a Health Summary Sheet (HSS).

The Health Summary Sheet should be designed based on new evidence-based guidelines for the new PHE programme that will be developed by the other partners in the Austrian project. As mentioned before in Chapter 4, the HSS should also reflect the risk profile of the patient based on the PIF.

The search and request for Health Summary Sheets for Periodic Health Examinations among the various Colleges of General Practitioners and Research Groups of the same practitioners in various countries resulted finally only in two different HSS used by the GP's in Australia (Figure 5 and 6), and in Marburg, Germany (Figure 7).

The Australian HSS, developed during the evidence-based development of the PHE programme in Australia, uses rather open fields to record information on family history, lifestyle risks, screening data, current problems and current policy. There is neither a clear link with the guidelines for the PHE, nor a clear guide for the physician's policy according the risk profile of the patient.

According Australian researchers who were interviewed for this project and who contributed to the evidence-based developed Periodic Health Examination programme, it became clear that the development of the Health Summary Sheet itself was only partly evidence-based.

The Marburg HSS seems to try to give partly insight in the risk profile of the patient by dividing certain information in predefined categories for instance for age, blood pressure, total cholesterol. It links personal risk factors with family history, and links (possible) diagnoses with actions to be undertaken.

Figure 4 - Austrian HSS: Befundblatt, adults

VORSORGEUNTERSUCHUNG DER ÖSTERREICHISCHEN SOZIALVERSICHERUNG		A													
PROGRAMM FÜR MÄNNER UND FRAUEN AB DEM VOLLENDETEN 19. LEBENSJAHR															
Name und Anschrift des Probanden:		männl. <input type="checkbox"/>	weibl. <input type="checkbox"/>												
		Versicherungsnummer: <table border="1" style="display: inline-table;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td>Tag</td><td>Mon</td><td>Jahr</td><td colspan="3">Geburtsdatum</td></tr></table>								Tag	Mon	Jahr	Geburtsdatum		
Tag	Mon	Jahr	Geburtsdatum												
Vom Probanden zu bestätigen:		Zuständige Krankenkasse:													
1. In den letzten 12 Monaten vor dieser Untersuchung habe ich keine Vorsorgeuntersuchung der österreichischen Sozialversicherung in Anspruch genommen.															
2. Ich war im letzten Quartal															
<input type="checkbox"/> nicht in Behandlung															
<input type="checkbox"/> in Behandlung wegen _____ (Hauptdiagnose)		Datum, Unterschrift des Probanden													
BEFUNDBLATT		Ausfertigung für ARZT													
KLINISCHE UNTERSUCHUNG															
Gewicht in kg	Größe in cm	Blutdruck syst.	Puls/min.												
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>												
Kopf	Mammoe														
Halb	Gefäße (Tastbefunde)														
Herz, Lunge	Leber <input type="checkbox"/>														
WS-/Gelenke	Milz <input type="checkbox"/>														
Rektal-digital	Resistenzen														
Prostata	Sonstige Auffälligkeiten (z. B. tastbare Lymphknoten)														
HARNUNTERSUCHUNG (Teststreifen)															
Leukozyten	Glucose														
Nitrit	Keton														
pH	Urobilinogen														
Eiwass	Bilirubin														
BLUTUNTERSUCHUNG															
Blutenkung (n. W)	Cholesterin	<input type="text"/>	mg/dl												
Blut im Stuhl (bei Probanden ab dem 40. Lebensjahr mittels 3-fach-Testbeef)	Harnsäure (muß bei Frauen erst ab dem 50. Lebensjahr durchgeführt werden)	<input type="text"/>	mg/dl												
	Blutzucker (nüchtern)	<input type="text"/>	mg/dl												
	Gamma-GT	<input type="text"/>	U/l												
	Triglyceride	<input type="text"/>	mg/dl												
RISIKOFAKTOREN FÜR:															
Herz-Kreislauf (ASKL, Hypertension)	Erkrankung der Atmungsorgane														
Karzinom (Lokalisation)	Gicht														
Diabetes	Lebererkrankung														
Sonstige	Fettstoffwechselestörungen														
Verdacht auf															
Diagnosen der neu entdeckten Krankheiten:															
Abschlußgespräch am: _____ über Gesundheitszustand, Risikofaktoren, Lebens- und Ernährungsgewohnheiten usw. <input type="checkbox"/>															
Weitere Maßnahmen, die sich aus der Vorsorgeuntersuchung ergeben:															
Begründung für Vorsorgeuntersuchung, wenn erforderlich:															
Datum, Stampiglie und Unterschrift der Untersuchungsstelle															

The newly to be developed HSS form for the Austrian PHE may follow the Marburg approach, but still should more reflect the new PHE evidence-based guidelines and risk profiles of the patient. An electronic link between the PIF and the HSS might guide the physician in the screening examinations to be undertaken. For instance, the risk profile score based on the information about risk factors for hypercholesterolemia and cardiovascular diseases on the PIF may directly provide the information needed for the physician to take the decision to check the cholesterol level of the patient or not. Information collected on the PIF about risk factors for diabetes or glaucoma will also guide the screening actions to be undertaken or not. The BMI may be calculated straight away by linking the information about weight and height to the electronic HSS through a spreadsheet or algorithm programme.

Once the data from the laboratory tests is also copied on the HSS, a risk percentage for developing cardiovascular diseases can be calculated using the Medical Algorithms spreadsheet programmes developed by the Institute of Medical Algorithms (see p.22). It has to be decided to follow the risk profile according the British, Sheffield, New Zealand (the algorithms) or Dutch definitions (see figure 8), or to develop a local Austrian risk profile. An automatic link between the electronic HSS and the algorithm will provide immediately the individual risk percentage for the development of a cardiovascular disease within ten years of time or an individual risk profile. Other examples of computerized decision support are presented in the Oxford textbook of Primary Medical Care (Emery 2004) and by Hingorani and Vallance (1999).

An electronic link between PIF and HSS would smooth and facilitate the process of PHE. For the practical design of a paper or electronic format of the new HSS for the Austrian PHE, based on the newly developed guidelines decisions have to be taken about all information that should be registered on the form. The new form has to be tested and piloted in a representative sample of patients coming for a Periodic Health Examination.

Specific recommendations for the HSS

Diabetes risk profile: copy the risk score 0 to 3 for the development of diabetes mellitus from the PIF to decide if blood glucose should be measured. If so, record level of glucose.

Blood pressure: note the results of two or three measurements of systolic and diastolic blood pressure to decide about the presence of hypertension based on cut-off point that will be decided.

Cardiovascular risk profile:

- < Copy the risk score for the development of hypercholesterolemia from the PIF: if the score is 2 or more total cholesterol and HDL will be measured.
- < Total cholesterol/ HDL ratio will be calculated.

Figure 7 - Marburg HSS

Berichtsvordruck Gesundheitsuntersuchung

Teil b (Durchschnitt für den Arzt)

Krankenkasse

ADK BKK IKK

Landwirtsch. Krankenkasse Bundesknappschaft

VdAK AEV

Alter

unter 35 50-54 70-74

35-39 55-59 75-79

40-44 60-64 80 u. älter

45-49 65-69

Geschlecht weiblich männlich

Es wird gleichzeitig eine Krebsfrüherkennungsuntersuchung durchgeführt? ja

Anamnese

Es wurde bereits eine Gesundheitsuntersuchung nach den Richtlinien durchgeführt? ja

Vorbestehende Krankheiten

	in der Eigenanamnese	in der Familienanamnese
Hypertonie	<input type="checkbox"/>	<input type="checkbox"/>
koronare Herzkrankheit	<input type="checkbox"/>	<input type="checkbox"/>
sonst. arter. Verschlusskrankheit	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes mellitus	<input type="checkbox"/>	<input type="checkbox"/>
Hyperlipidämie	<input type="checkbox"/>	<input type="checkbox"/>
Nierenkrankheiten	<input type="checkbox"/>	<input type="checkbox"/>
Lungenerkrankung	<input type="checkbox"/>	<input type="checkbox"/>

Persönliche Risikofaktoren

Nikotinabusus Adipositas

dauerhafte emotionale Belastungsfaktoren Alkoholabusus

Bewegungsmangel

Befunde

krankhafte Veränderungen (ohne interkurrente Befunde)

Brustkorb (Inspektion) Bewegungsapparat

Herzauskultation Haut

Lungenauskultation Sinnesorgane

Abdomenpalpation (einschl. Nierenlager) Nervensystem

Fußpulse Psyche

Karotisauskultation

Blutdruck

bis 140/90 mmHg bis 180/105 mmHg

bis 160/95 mmHg über 180/105 mmHg

Der relativ höhere Wert (systolisch oder diastolisch) bestimmt die Klassenzugehörigkeit (z.B.: 150/100 mmHg= bis 180/105 mmHg). Bei Werten über 140/90 mmHg ist eine zweite Messung durchzuführen und der Mittelwert aus beiden Messungen für die Klassenzuordnung zugrunde zu legen.

Labor

Blut

Gesamtcholesterin:

bis 200 mg/dl

201 bis 220 mg/dl

221 bis 250 mg/dl

251 bis 300 mg/dl

über 300 mg/dl

Bestimmung des HDL/LDL-Cholesterins veranlaßt? ja

Glukosewert auffällig? ja

Harn

Eiweiß positiv Ery/Hb positiv Leukozyten positiv

Glukose positiv Nitrit positiv

Beleg-Nr. 91468669

Neue Diagnose / Verdachtsdiagnose
(ohne interkurrente Erkrankungen)

neu gestellte Diagnose	davon behandlungsbedürftig	Abklärungsdiagnostik bei Verdacht auf bisher unbekannte Erkrankung eingeleitet
Hypertonie	<input type="checkbox"/>	<input type="checkbox"/>
koronare Herzkrankheit	<input type="checkbox"/>	<input type="checkbox"/>
arterielle Verschlusskrankheit	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes mellitus	<input type="checkbox"/>	<input type="checkbox"/>
Hyperlipidämie	<input type="checkbox"/>	<input type="checkbox"/>
Nierenkrankung	<input type="checkbox"/>	<input type="checkbox"/>
Lungenerkrankung	<input type="checkbox"/>	<input type="checkbox"/>
orthopädische Erkrankung	<input type="checkbox"/>	<input type="checkbox"/>
Hauterkrankung	<input type="checkbox"/>	<input type="checkbox"/>
Erkrankung des Nervensystems	<input type="checkbox"/>	<input type="checkbox"/>
Erkrankung der Psyche	<input type="checkbox"/>	<input type="checkbox"/>
andere Krankheiten	<input type="checkbox"/>	<input type="checkbox"/>

Folgende Maßnahmen wurden veranlaßt!

Ernährungsumstellg./Diätber. neu verordnete medikamentöse Therapie

Nikotin-entwöhnung sonstiges

Bewegungs-training keine speziellen Maßnahmen

Entspannungstechniken

Name

Geburtsdatum

- < Cardiovascular risk factors gender, smoking, present diabetes will ticked off according the information on the PIF.
- < Copy the risk percentage for the development of a cardiovascular disease and coronary heart disease from the risk tables for males of women depending of the risk factors diabetes, blood pressure, smoking and the total cholesterol / HDL ratio. Different tables and models are published (see reference 20, page 22). The risk table developed for the Dutch College of General Practitioners differs from other risk tables in the way it combines absolute risk with guidelines for treatment of hypertension and cholesterol. (see figure 8, p 58: Risicotabel NHG-Standaard M17 copied from Huisarts en Wetenschap, 2003; 46:439)

The table presents 4 groups of patients with different colours: green, no treatment of blood pressure or cholesterol; yellow, treatment of blood pressure if other risk factors are present; orange, treat blood pressure; red, treat blood pressure as well as cholesterol, so far as blood pressure is above 140 mm Hg (or above 160 mm Hg for people above 60 years).

The parallel curves are iso-risk curves for the development of cardiovascular diseases. The percentages are the 10 years risk percentages for the development of CVD. The curves bordering the red area's are iso-risk curves indicating the age-dependent 10 years risk for the development of coronary heart disease.

Translation of Dutch terms: mannen = men, vrouwen = women; niet-roker = non-smoker, roker = smoker; SBD = systolic blood pressure.

Hearing

Copy the result of the Whispered Voice Test for patients with difficulties with their hearing.

Vision

< *Impairment*

Copy the result of the Snellen acuity chart for patients with their vision.

< *Glaucoma*

Copy the risk score for glaucoma and result of further opthalmological examination when necessary.

Use of sedatives

Tick off use of sedatives and write down reason for it.

Cancer risk

- < *Breast*
Tick of breast cancer risk. Mention result of further examination when necessary.
- < *Melanoma*
Tick of melanoma cancer risk. Mention result of further examination when necessary.
- < *Intestines*
Tick of intestines cancer risk. Mention result of further examination when necessary. Mention result of Haemocult
- < *Other(familiar)*
Tick of breast cancer risk. Mention result of further examination when necessary.

Suspicion of something being wrong

General physicians have 'experience based knowledge' to construct a picture from all patient's complaints and (clinical) intuition telling them something is wrong (serious illnesses needing therapeutic intervention) or not (non-serious self-limiting illnesses) without knowing yet any specific diagnosis. (Van Leeuwen, 1998; Dinant 2004-1 and 2; Macnaughton 2004) On the HSS room must be given to tick off suspicion or not and to write down what the reasons are for the physician's suspicion.

Figure 8. Risk table for the development of Cardio Vascular Disease and Coronary Heart Disease of the Dutch College of General Practitioners 2003.

Risicotabel

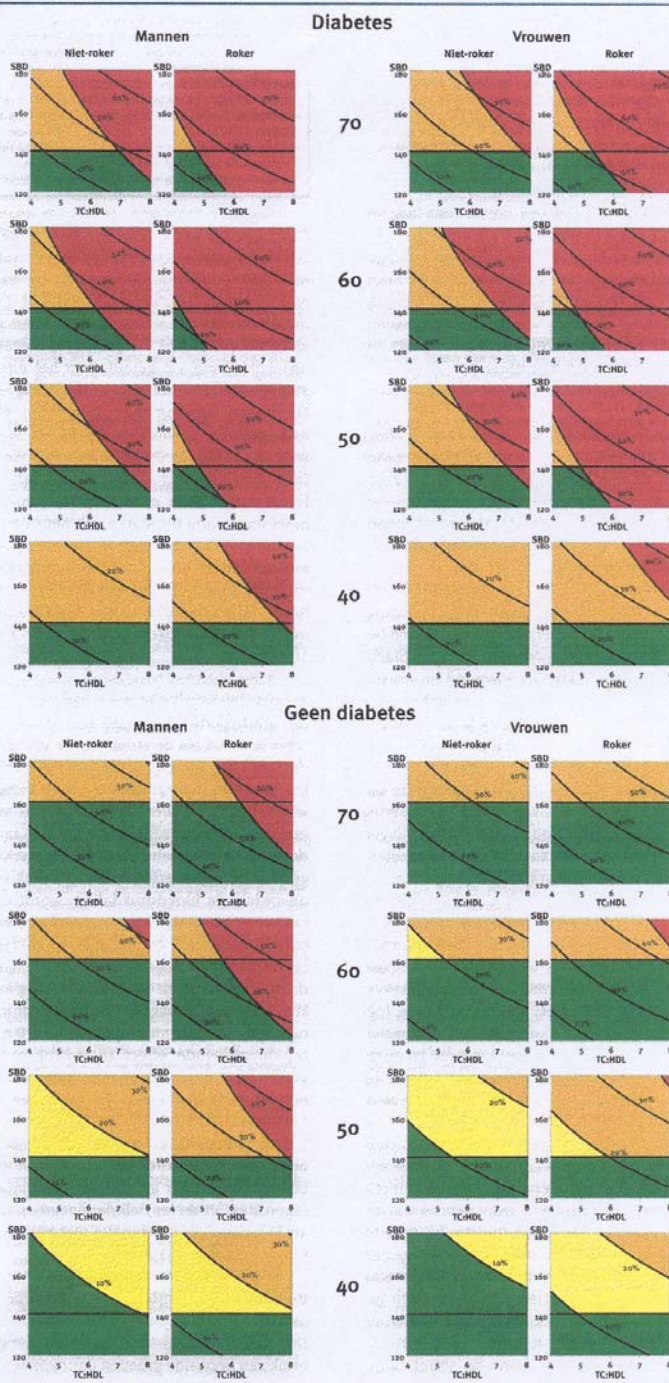
Indicaties voor bloeddruk- en cholesterolverlagende therapie bij mensen zonder hart- en vaatziekten op basis van een gecombineerd risico-profiel

Bepaal aan de hand van leeftijd, geslacht, aanwezigheid van diabetes en roken, bloeddruk en totaal cholesterol/HDL-cholesterol-ratio de plaats van de patiënt op de kleurenkaart. Voor patiënten ouder dan 70 jaar moet de tabel worden gebruikt die betrekking heeft op 70-jarigen.

Lees uit de kleur van het gebied af of medicamenteuze behandeling moet worden ingesteld

- behandeling van bloeddruk en cholesterol niet geïndiceerd
- behandel bloeddruk alleen bij bijkomende risicofactoren zoals familiale belasting
- behandel bloeddruk
- behandel zowel de bloeddruk als cholesterol, mits bloeddruk boven behandeldrempel van 140 mmHg (of bij 60-plussers boven 160 mmHg) ligt

* De parallele krommen zijn iso-risicolijnen op hart- en vaatziekten. De daarbij vermelde percentages geven de tienjaarsrisico's aan. De krommen die de grens vormen van de rode gebieden zijn eveneens iso-risicolijnen. Deze geven het per leeftijdscategorie wisselende tienjaarsrisico op uitsluitend coronaire hartziekten aan.



6 Summary and Conclusions

We will summarize the results and findings of this technical report in this chapter summarized and present conclusions based on our experience during this research project. But first we want to have a look at a higher level, namely the functionality and usefulness of the Periodic Health Examination in health and health care.

National Preventive Task Forces, Primary Care Research Groups and Colleges of General Practitioners from various countries develop evidence-based guidelines for preventive activities at various levels of the health care system including primary health care and Periodic Health Examinations. However, only little evidence is available about effectiveness and usefulness of Periodic Health Examinations, or satisfaction of patients attending Periodic Health Examinations executed by General Practitioners, public health nurses or by health personnel at the worksite. A quick search on the Pubmed database reveals about 385 publications with the words periodic health examination in title or abstract. But these publications usually do not focus on Periodic Health Examination as their subject of research. They may discuss e.g. the follow-up of specific diseases, specific screening activities within a periodic medical check-up or prenatal care with periodic visits.

Looking for effectiveness and efficiency of PHE's, Burton et al. (2002) also found very few studies by a literature search in Medline. Their own research at a worksite calculated a net return on investment in financial terms from medical claims and short-term disability days absent after three years of follow-up. A major American study – the Multiphasic Health Checkup Evaluation Study – published in 1985 found after a follow-up of 16 years a 30% reduction in deaths from pre-specified “potentially postponable” causes (mostly colorectal cancer and hypertension) in a cohort urged to have yearly medical check-ups. This reduction was more pronounced in the early years, while neither overall mortality nor self-reported disability were different compared to a control group not urged to have annual medical check-ups. (Friedman et al. 1985) Comparable, large prospective studies are to our knowledge not available for other countries and more recent years.

In several countries general practitioners are involved in preventive activities and national prevention programmes, such as influenza vaccination or cervical cancer screening. Apart from screening programmes general practitioners provide preventive services to indicated patients, visiting their practice on whatever occasion. Still, several studies found that the strongest determinant of receiving preventive services in the US and Canada is having a periodic health examination. (Sox et al 1997; Finkelstein 2002).

The Canadian Task Force on the Periodic Health Examination published several scientific papers about the evidence of including various screening tests in the PHE. They provided each topic with recommendations for inclusion, rating from

A to C: C was given when insufficient evidence was available, B when inclusion was advocated under certain conditions or for a limited target group, A when there was enough evidence to include the activity into the PHE. In the light of the actual demographic changes and the increasing numbers of older people some emphasize the role of the PHE for older people within a community approach to population health. Including evidence-based activities in the PHE for older people may improve the quality of life and reduce the risk of premature death. (Patterson and Feightner, 1997). But where is the evidence for such an outcome in the long run? And where is the evidence that general practitioners actually follow those evidence based guidelines? There is evidence that physicians still order laboratory tests not recommended by practice guidelines at the PHE. (van Walraven et al. 2000). Moreover, the existence of different guidelines advocated by different national Working Groups and Task Forces do not facilitate a standardized policy in some countries as Canada and the USA. (MacLean et al. 1999; Beck 1999)

Besides the usefulness of the PHE in asking physicians to pay attention to prevention and health promotion, periodic health examinations running for many years may be used in monitoring the health of the general population or specific subgroups. Health policy needs information on trends in the health of the population. This information is currently extracted from different sources, such as national health interview surveys, primary care morbidity registration networks or hospital discharge diagnoses. In some countries periodic health examination surveys are organised in the framework of specific projects, such as the WHO MONICA project, monitoring trends and determinants of cardiovascular diseases. (Gutzwiller 1993) Nationwide PHE's at GP level could be a valuable source of public health monitoring information. A condition is that those attending PHE come from a random selection of the population or that the chance of attending is known, in order to be able to make statistical interference. Of course, standardized and computerized documentation of the findings during a periodic health examination would be a "conditio sine qua non".

Among the few studies looking at patient satisfaction, a study in Finland found that almost all their respondents attending a PHE executed by a public health nurse evaluated the periodic examination as beneficial for everyone. Access to PHE was demanded from the vantage point of individual rights and entitlement, or self-care (women). (Nupponen 1996) Also in Spain patients were satisfied with the PHE executed by the nursing staff. (Buitrago et al. 1991).

Periodic health examination requires instruments (questionnaires, forms, summary sheets) to record patient information about health and about individual risk factors for the development of several diseases. The collection of this information must guide the physician in the further process of the necessary clinical examinations and screening tests in each individual case. The instruments should reflect the national policy of preventive activities within the framework of a periodic health examination.

But, while PHE programmes may be designed based on scientific evidence and may use developed guidelines and policies as reference, the information about the forms used in these programmes is poor.

Not only are there very few publications about the content of these forms, also evidence on the validity and reliability of specific questions on certain topics, let alone of complete questionnaires, remains scarce. Screening questions and questionnaires are sometimes discussed in scientific papers, but literature remains limited and when available it produces usually not the forms themselves. Information on validity and reliability is only available for a number of generic questionnaires used for research purposes as mentioned in Chapter 3.

We used the approach of a systematic review to collect all possible information on the chosen priority domains in scientific databases and on the internet. Most of the information on questions and questionnaires comes from different sites on the internet. The sites are from National Prevention Task Forces, universities and university hospitals, Colleges of General Physicians and Non-governmental Organisations aiming at disease prevention. All questionnaires found through this approach were screening tools and Patient Information Forms, on paper or electronic. To develop questions on the selected subjects for the Patient Information Form we screened the various forms found through the search, compared the different approaches and phrasings, and used the criteria for the development of questions and questionnaires as mentioned in Chapter 2. This resulted in Chapter 4 in a number of screening questions covering the priority domains as given in figure 3. The questions provide a risk profile for hypercholesterolemia / cardiovascular diseases, diabetes, glaucoma and cancer.

The up-to-date views about this kind of Patient Information Forms are that they should not only be used to collect information from the side of patients, but also to provide patients with information on their risk to develop certain diseases. Risk profiles can be used for this purpose. Calculation of diabetes risk profiles, calculation of BMI, calculation of individual risks for the development of cardiovascular diseases in the next future, all this would be easier once the registration of information would be computerised. The use of a computerized health risk appraisal with a counselling report, developed by the Centers of Disease Control in the USA, during the periodic health examination resulted a significant improvement in physical activity. (Gemson 1995) Computerisation will facilitate the link between the Patient Information Form and the Health Summary Sheet, and probably shorten the time of consultation with the physician.

Health Summary Sheets that can be used by the physicians have not been found in the literature nor through a search on the internet. Although we tried several times and by several means to contact various Colleges of General Practitioners, the response was very meagre. The North-American Primary Care Research Group was so kind to put our request on their server list. This resulted after 4

weeks in 2 reactions. Our Australian colleagues of Family Medicine departments and research departments resulted finally after almost 2 months in hard copies of the HSS they are using. This low response to our requests for information might (either or both) indicate a lack of interest in these aspects of PHE's or the actual lack of evidence based forms. All these efforts resulted for this limited project in a comparison of the actual sheets used by the Austrian PHE and the Australian forms and the Marburg forms. The comparison and the information found through the search on the internet resulted in recommendations for the development of the new forms, with a strong advocacy for an electronic link between the PIF and the HSS. This link might automatically provide the physician with different risk profiles for different diseases, facilitating the screening and making the whole process more efficient. Some algorithms are already developed and freely available.

The technical report provides a start of a Patient Information Form with questions and risk profiles addressing the priority domains and the task list provided by the commissioner. Recommendations are given for the development of a Health Summary Sheet, the background information needed to calculate risk profiles and about some actions to be taken. The further final development of the questionnaires in paper and/or electronic format for the Austrian Periodic Health Examination will be based on the new evidence-based policies developed in Austria. They still need further development, testing and piloting in the reality of Austrian general practice. Once the new standardised policy will be implemented and the new standardized forms will be used, the Austrian authorities should think of a baseline measurement and an evaluation over time of the whole process of the Periodic Health Examination (data collection, counselling, implementation of preventive activities, implementation of guidelines by the physicians). One should also study the possibilities and usefulness to use the data collection of the Austrian PHE programme for epidemiological purposes, evaluation of preventive activities and development of health policy.

We thank the colleagues of the Royal Australian College of General Practitioners and the North American Primary Care Research Group for their help in our search for information. We thank also colleague dr. Franz Piribauer from the Hauptverband der Österreichischen Sozialversicherungsträger for his guidance through the major Austrian activities and information collected by the various working groups within this project and for his patience with our work. We hope that this technical report will contribute to a standardized, effective and efficient periodic health examination in Austria.

Literature list

Beck LH. Periodic health examination and screening tests in adults. *Hosp Pract (Off Ed)*. 1999;34:117-8, 121-2, 124-6.

Buitrago Ramirez Fet al. [Results of periodic health examinations in an adult population aged 15-60 years] [Article in Spanish] *Aten Primaria*. 1991;8(3):218, 220, 222-4.

Burton WN, Chen CY, Conti DJ, Schultz AB, Edington DW. The value of the periodic executive health examination: experience at Bank One and summary of the literature. *J Occup Environ Med*. 2002;44:737-44.

Devillé W. Evidence in diagnostic research: reviewing diagnostic accuracy, from search to guidelines. PhD Dissertation, Vrije University Amsterdam, 2001.

Dinant GJ and van Leeuwen YD. Clinical Diagnosis: hypothetico-deductive reasoning and other theoretical frameworks. In: *Oxford textbook of Primary Medical Care*, edited by Jones R. et al., Oxford, 2004, Volume 1, 203-5

Dinant GJ. Undifferentiated illness and uncertainty in diagnosis and management. In: *Oxford textbook of Primary Medical Care*, edited by Jones R. et al., Oxford, 2004, Volume 1, 200-3

Emery J. Computerized decision support. In: *Oxford textbook of Primary Medical Care*, edited by Jones R. et al., Oxford, 2004, Volume 1, 220-3

Essink-Bot ML, Rutten-van Mólken MPMH. [Measuring the health status. Inventory of instruments for medical technology assessment.] [Book in dutch] Institute for Technology Assessment, Erasmus University Rotterdam and University of Maastricht, Rotterdam and Maastricht, the Netherlands, 1991.

Finkelstein MM. Preventive screening. What factors influence testing? *Can Fam Physician*. 2002;48:1494-501.

Gemson DH, Sloan RP. Efficacy of computerized health risk appraisal as part of a periodic health examination at the worksite. *Am J Health Promot*. 1995;9(6):462-6.

Gutzwiller F, Rickenbach M, Barazzoni F, Ackermann-Liebrich U. [Regular assessment of cardiovascular risk factors and diseases: a valuable tool or not? (The MONICA experience)] [Article in German] *Schweiz Med Wochenschr Suppl*. 1993;48:8-12.

Hingorani AD and Vallance P. A simple computer program for guiding management of cardiovascular risk factors and prescribing. *British Medical Journal*, 1999; 318:101-5

König-Zahn C, Furer JW, Tax B. [Measuring the health status. Physical health, social health. Description and evaluation of questionnaires] [Book in Dutch] Ed. Van Gorcum, Assen, the Netherlands, 1994

MacLean DR, Petrasovits A, Connelly PW, Little JA, O'Connor B. Impact of different blood lipid evaluation and treatment guidelines on the proportion of Canadians identified and treated for elevated blood cholesterol. Canadian Heart Health Surveys Research Group. Can J Cardiol. 1999; 15:445-51.

Macnaughton J. Clinical judgment. In: Oxford textbook of Primary Medical Care, edited by Jones R. et al., Oxford, 2004, Volume 1, 205-9

Nupponen R. Client views on periodic health examinations: opinions and personal experience. J Adv Nurs. 1996;23:521-7.

Patterson C, Feightner J. Promoting the health of senior citizens. CMAJ. 1997;157:1107-13.

Roland M, Jamoulle M. [The periodic health examination: a useless test?] [Article in French] Rev Med Brux. 1998;19:A255-62.

Sox CH, Dietrich AJ, Tosteson TD, Winchell CW, Labaree CE. Periodic health examinations and the provision of cancer prevention services. Arch Fam Med. 1997;6:223-30

Streiner DL and Norman GR. Health Measurement Scales. A practical guide to their development and use. Ed. Oxford University Press, Oxford, UK, 1994.

Van Leeuwen YD. Experience based knowledge [Article in Dutch] Huisarts Wetenschap 1998; 31 (2):80-4

van Walraven C, Goel V, Austin P. Why are investigations not recommended by practice guidelines ordered at the periodic health examination? J Eval Clin Pract. 2000;6:215-24.

Appendix A Original Task list Hauptverband der Österreichischen Sozialversicherungsträger - NIVEL

Item	Task Nivel
Bisherige Intervention Aktivität / ev..	
Neue Aktivität	
Krankheits-symptome abfragen ; Kürzungen andenken.	Yes, reduce to very few
Regelmäßige Einnahme von Sedativa/ Analgetika	Yes, one valid question
Regelmäßige Einnahme sonstige	?? should this be included. ?? doctors representative (Medical Chamber) wants it
Gesamte Hautoberfläche inspizieren	Yes, risk family question should be in the patient questionnaire, Very few standardised questions (Australian ones?)
(Vor)Erkrankungen / Operationen: Siehe Protokoll.	See above
Sonstige auffällige Befunde aus der allgemeinen med.	denoting special findings (rest category, free text field)
Familien-Anamnese Diabetes	standard questions (Australia ?)
Familien-Anamnese KHK	Standard questions understandable by lay persons
Familien-Anamnese Krebs	?? specific vs. Generic ?: Australian = Generic ?
PAP - Abstrich	Classification system, propose answers to check by GP/Gyn
Arteriosklerose-Risiko festhalten	Advice to restrict HDL measurement to male target group
Arteriosklerose-Risiko festhalten	Advice to restrict HDL measurement to female target group
BMI errechnen	Advice how to do it ?; nothing to do ?:
Rauchen	One or two valid/ precise questions in patient questionnaires – validated German version necessary
Familien-Anamnese Malignes Melanom	First degree relative with MM (problem ask lay people about melanoma, or skin cancer in general
Kopfuntersuchen/ Augen untersuchen - Ophthalmoskopie	How to ask patients/ how to formulate written question, / how to document high risk
Krankheitssymptome Melanom abfragen	See above skin cancer

Item	Task Nivel
Bisherige Intervention Aktivität / ev.. Neue Aktivität	
Beratung zur körperlichen Bewegung	Something like; counselling on daily physical activity performed to achieve personal goal ... ??
Blutzucker messen/festhalten; , bei besonderer Zielgruppe auf Grund von Anamnese / Vorbefunden	Categories to tick off ... ;
Verdachtsmomente ?	Is this usual enclosed, doctors delegates in Austria wanted it.
Zusammenfassung: Risikofaktoren	Categories to tick off
Arteriosklerose-Risiko festhalten	Class - Categories to tick off
Erhöhung Gemüse Zufuhr; Reduktion/ Ersatz der gesättigten Fette für Personen mit <u>erhöhter nachgewiesener KHK Risikoklasse</u>	How to report on dietary counselling?
Mammographie	Risk categories to tick off? : international classification system exists
Blutzucker messen/festhalten, bei besonderer Zielgruppe auf Grund von Anamnese / Vorbefunden	Categories to tick off ... ;
Arteriosklerose-Risiko festhalten	Class - Categories to tick off
Hämocult	How to report?
Sigmoidoskopie / Kolonoskopie	How to report?; Questionnaire on family risk?: 35% of cancer in group identifiable by history (family + personal)
Blutzucker messen/festhalten	Categories to tick off
Lärmbelastung abfragen/ Flüstertest Durchführen	How to advice physician on simple test, how to report
Familien-Anamnese Glaucom	How to ask patients/ how to formulate written question, / how to document high risk
Kopf untersuchen/ Prüfung des Sehvermögens	How to ask best;