FARMERS HAVE HEART PROJECT EVALUATION

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FARMERS HAVE HEARTS PROJECT

EVALUATION

By

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Health Promotion Services
Community Nutrition and Dietetics
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EXECUTIVE SUMMARY

In Ireland and Internationally cardiovascular disease is a particular health problem among men. The 'FARMERS HAVE HEARTS' programme was developed to address this issue. It is a multidisciplinary project providing free cardiovascular health-screening to rural men in County Roscommon. It aims to create an awareness of cardiovascular disease by focusing on the importance of prevention and the promotion of heart health. It identifies clients with risk factors that contribute to cardiovascular ill-health and encourages them to engage in positive health behaviours.

The aim of the report is to provide an evaluation of data collected during the Farmers Have Hearts Project to facilitate decision making in terms of future projects. A database of all individuals that attended the project was set up to record key information about those attending the project at their initial and recall visit to the project. Data for 2007 was extracted from the database and was subsequently analysed to obtain an overview of the impact of the project. The key findings can be summarised as follows:

1. At first visit, 56% of those attending were classified as having hypertension. This significantly reduced to 40% for the recall visit to the project.

2. The majority of respondents at first (88%) and recall (86%) visit to the project were advised to see their doctor between one and three months after attending.

3. Total Cholesterol levels were less than 5.0 for 61% of those attending both at their first and recall visit to the project with 39% having levels above 5.0.

4. 85% of those attending the project at first visit and 82% at their recall visit were classified as overweight or obese.

5. 56% of respondents at both first and recall visit are classified as high risk in terms of their waist circumference.

The following recommendations have been identified to enhance the continued implementation of the Project in the future:

1. Further initiatives targeting farmers need to be developed to help reduce the risk of cardiovascular disease in this population group.

2. Methods of communicating information about the project should be investigated to optimise attendance.

3. The Community Nutrition & Dietician Service should consider following up all those who attended the project who were classified as overweight or obese.

4. Consideration should be given to asking Farmers to fast before they attend the project to facilitate diagnosis of impaired glucose tolerance and diabetes.

5. Systems to improve the number of people who attend the project for a recall visit should be investigated.

6. More detailed information on physical activity should be recorded to ensure that the project is having an impact on physical activity levels, and that any physical activity that is being undertaken meets recommended guidelines to improve heart health.

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1. INTRODUCTION

1.1 Background

Cardiovascular disease remains a leading cause of mortality in men and women globally including coronary heart disease, stroke, and other circulatory diseases. These diseases account for 37% of all deaths in Ireland (Jennings, 2007).

In Ireland and elsewhere cardiovascular disease is a particular problem among men. The incidence of cardiovascular disease and of circulatory diseases are all higher for men than women (McEvoy and Richardson 2004).

The National Health Strategy 'Quality and Fairness' (Dept. of Health and Children, 2001) highlights men's health as a distinct area for action. In addition, the National Health Promotion Strategy (Dept. of Health and Children, 2000) highlighted the importance of targeting men as a population group in relation to health promotion initiatives.

In developing cardiovascular disease prevention programmes, emphasis is now being placed on a multidisciplinary approach. The National Heartwatch Clinical Report (2006) stated that there is a need for multidisciplinary teams to provide individualised and tailored programmes to help tackle all the risk factors for heart disease. Jennings (2007), in an audit of progress made on the implementation of the Building Healthier Hearts Strategy 1999-2005 recommended the need for establishing multi-disciplinary teams made up of nurses, dieticians and health promotion professionals to help tackle cardiovascular disease. These teams it was argued could provide comprehensive behavioural and lifestyle programmes to help improve one's heart health status. Evidence based health promotion interventions have been credited with staggering increases in life expectancy and decreases in cardiovascular disease (O'Donovan. 2008).

In recognition of these issues, the 'FARMERS HAVE HEARTS' programme was developed. It is a multidisciplinary project

providing free cardiovascular health-screening to rural men in County Roscommon. Rural men have been targeted for this screening project, as traditionally middle and professional classes are more likely to attend screening projects (Thomson et al, 2001). Chronic heart disease mortality in Ireland is also significantly higher in farmers (Balanda and Wilde, 2001). It was therefore felt that a targeted programme was required to help address this issue. As men may have less contact with the health services than women (Humphreys et al, 1997, Kraemer, 2000), the venues where men from rural areas attend were chosen such as livestock marts, community groups and workplaces.

A crucial element of the project is to create an awareness of cardiovascular disease (CVD) by focusing on the importance of prevention along with the promotion of heart health. The project seeks to identify clients with risk factors that contribute to cardiovascular ill-health and to encourage them to engage in positive health behaviours. The high risk factors include people who smoke, have high cholesterol, high blood pressure and raised blood glucose (sugar) readings, poor diets and those who are over weight / obese and are physically inactive.

The multidisciplinary HSE West team includes health professionals from Health Promotion Services, Community Nutrition and Dietetic Services, and the Department of Public Health.

1.2 Aims and Objectives

The aim of the report is to provide an evaluation of data collected during the Farmers Have Hearts Project to facilitate decision making in terms of future projects. More specifically, the objectives of this evaluation are:

1 To provide an overview of the Farmers Have Hearts Project.

2 To assess the impact of the programme on cardiovascular risk factors.

2. THE FARMERS HAVE HEARTS PROJECT

2.1 Background

The 'Farmers Have Hearts' project is made up of a multi-disciplinary team comprising of nurse, a dietician, health promotion, and public health professionals. This project provides evidence that creative approaches have been put in place to target marginalized men outside the traditional primary care setting. These settings include the farmers' livestock marts, workplaces and community groups. The project team are focused on delivering a heart health screening service that is:

- **Equitable,** as the innovation focused on men's health, especially rural men's health. Women are welcome to the project.
- **Client Centred,** providing client access to health services in a user- friendly manner.
- **Easy Access,** it would provide easy access, minimal waiting with no form filling for the client.
- **Empowering,** introducing the human face of the health services to men who would be listened to and supported to take control of their health by making simple attainable changes in their lifestyle at home.
- **Positive,** focusing on a 'salutogenic' approach to men's health, on what keeps them healthy.
- **Informative,** there would be simple, clear explanations of results and changeable lifestyle factors identified to improve their health.
- **Sustainable,** a recall visit is provided in relation to life style changes, blood pressure, cholesterol screening, nutritional assessments and physical activity consultation — men would feel valued and thus more motivated to stay on track.
- **Portable,** that the service would be portable and flexible i.e. brought to the place where men work.
- **Beneficial,** that there are a host of tangible physical and mental benefits to be derived for men in the short term and hopefully the long term.
- **Easy to replicate**, that the project can be replicated to other client groups.

- **Simple,** it would allow clients to see in a very simple way and experience good effective multi-disciplinary working.
- **Free,** there is no cost involved for the client.

2.2 The Farmers Have Hearts Process

The various marts, local community centres and workplaces provided suitable rooms for the project team to conduct the project on the day. A key element of the project is that privacy for the client during their consultation is guaranteed. Consultations and agreement would have taken place with the relevant personnel such as the mart managers, workplaces contact personnel, and the community group leader and the team leader to arrange dates, times and the advertising of the project in different ways e.g. advertising of the project by the mart managers and by flyers that are sent out to farmers with their payment cheques from the mart two weeks prior to the upcoming assessment day or recall day.

The following is an outline of the total process from the first visit to the final questionnaire. This provides an in-depth insight into the process of the project from the client's initial visit to the final questionnaire.

The total process consists of 6 steps:

1. Initial visit of the client to the project.

2. Telephone call by a designated team member within 2 weeks if the client is in category 1 and 2 re his/ her cardiac risk profile and remind them to attend their family doctor.

3. At 6 weeks a questionnaire is sent out by post to each client to provide us with information in relation to their perception on their heart health now since visiting the project.

4. At 5 months a letter is sent out to each client in categories 1-4, to remind them of their recall appointment.

5. At 6 months the clients are seen for their recall appointment and they complete the same process as at their initial visit.

6. At 7 months the final questionnaire is sent out to all clients who have participated at the recall visit. The final questionnaire allows the client to report their self perception on the changes they have made, and how their health has benefited from the project.

The model of Motivational Interviewing is used by all health professionals.

2.3 Process during the First Visit and Recall Visit

1. **Step 1: Registration**
   The health promotion professional welcomes the client and informs the client of the 4 steps and teams members they will meet. A registration form is completed which gives contact information about the client. The intake form is completed by the health professional. The intake form includes a lifestyle questionnaire which secures data in relation to behaviours such as smoking, alcohol consumption, current level of physical activity, family history of heart disease and diabetes along with cooking habits, and use of medication. A consent form is completed which permits the project team to use the data for the purposes of research; it also provides indemnity for the HSE. There is no form filling for the clients at the project.

2. **Step 2: Blood Testing**
   The nurse takes a finger prick sample of blood from the client. This is analysed and provides the client with their results of total cholesterol, triglycerides, HDL and LDL and blood glucose. The client may or may not be fasting. Triglycerides are inaccurate if the client is not fasting. Blood glucose (sugar) results provide the client with random blood glucose (sugar) level. Following this the client has their blood pressure taken.

   The nurse then explains the significance and relevance of the results to the client based on the European CVD Guidelines (European Society of Cardiology, 2007). The client is categorized according to their cardiac risk profile. These categories highlight

for the team which clients need to see their family doctor within a specific time frame. The Farmers Have Hearts team, then follow up those clients who need immediate attention to encourage them to visit their family doctor.

Step 3: Nutritional Assessment and consultation

A complete nutritional assessment and consultation including height, weight, Body mass index (BMI) measurements and a waist circumference measurement is carried out by the Dietician. The blood results and the nutritional assessment are discussed with the client. Various helpful aids are used by the Dietician such as a food pyramid containing food models which visual demonstrate the correct portion sizes for meals. These provide great resources for discussion. The client is encouraged to consider simple nutritional changes they can make at home. Realistic goals are set by the client and information leaflets are available.

Step 4: Physical Activity Assessment and Consultation

A physical activity assessment and consultation is completed with each client. This involves exploring the client's lifestyle and habits in relation to physical activity, their likes, dislikes and barriers to becoming more active. The health professional explains the benefits of participating in physical activity with a special emphasis on the strong link between being active and positive cardiovascular health. In addition, the health professional discusses solutions to barriers that the client has identified to physical activity. A jointly negotiated simple exercise programme is then developed based on the American College for Sports Medicine Guidelines (2007). These recommend that one needs to participate in physical activity for 30 minutes at a moderate intensity for 5 days per week.

3. METHODOLOGY

A database of all clients who attended the project was set up to record key information about the clients from their initial visit and their recall visit to the project. All clients gave written consent prior to being included on the database. The following information was recorded:

- Age
- Gender
- Family History
- Lifestyle behaviours in relation to;
  - Alcohol consumption
  - Smoking status
  - Exercise
  - Cooking habits
- Medications (prescribed and 'over the counter')
- Blood pressure
- Cholesterol levels
  - Total Cholesterol
  - HDL
  - LDL
  - Triglycerides
- Blood glucose (sugar)
- Body mass index
- Height and weight
- Waist circumference

From the information collected, all clients were categorised according to their cardiac risk profile.

Data for 2007 was extracted from the database and was subsequently analysed to obtain an overview of the impact of the project. The clients had there initial visit in 2007 and their recall visit 6 months later.

4. REVIEW OF THE DATA COLLECTED AT THE FARMERS HAVE HEARTS PROJECT

3.1 Introduction

In this section, the results of the hard data are presented. Key data was recorded for all those who attended the Farmers Have Hearts Project in 2007.

3.2 Profile

In 2007, a total of 291 people attended the Farmers Have Hearts project at the marts, at work place and at community groups. The majority of those attending were male (82%) and 70% reported having a family history of heart disease. Table 3.1 shows the numbers attending the project by location. It can be seen that Roscommon Mart (36%) and Castlerea Mart (24%) had the highest proportion of attendees. The average number of people attending each project was 48.5 (standard deviation = 33.0).

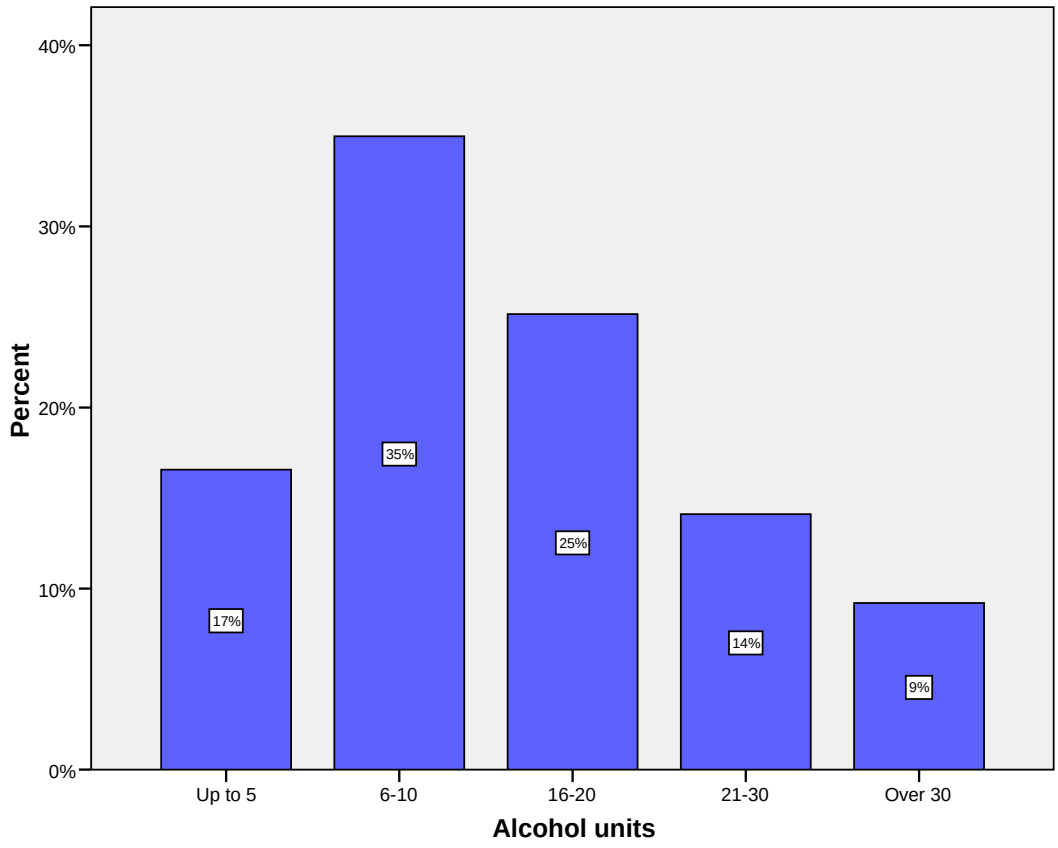
Table 3.1: Attendance by Location

Location	No.	%
Workplace C. G.	20	7
Castlerea Mart	70	24
Community Curraghboy	32	11
Elphin Mart	45	16
Community Rahara	20	7
Roscommon Mart	104	36

3.3 Lifestyle Behaviours

On first attending the project 19% smoked and 72% consumed alcohol. For those that did consume alcohol, figure 3.1 shows that 77% drank less than 21 units per week with 15.9 units drunk per week on average (standard deviation = 14.93). A total of 39% reported that they exercised.

Figure 3.1: Weekly Alcohol Consumption



3.4 Blood Pressure

Figure 3.2 shows blood pressure results for those attending the project at their first and recall visit. The results have been grouped into four categories, following the World Health Organisation (WHO) and the International Society of Hypertension (1999) guidelines and the British Hypertension Society 2004 guidelines (Williams et al, 2004). At first visit, 56% were classified as having mild, moderate, or severe hypertension. This reduced to 40% for the recall visit to the project. These changes were statistically significant (Chi square = 5.409, p = 0.020).

Figure 3.2: Blood Pressure at First and Recall Visit

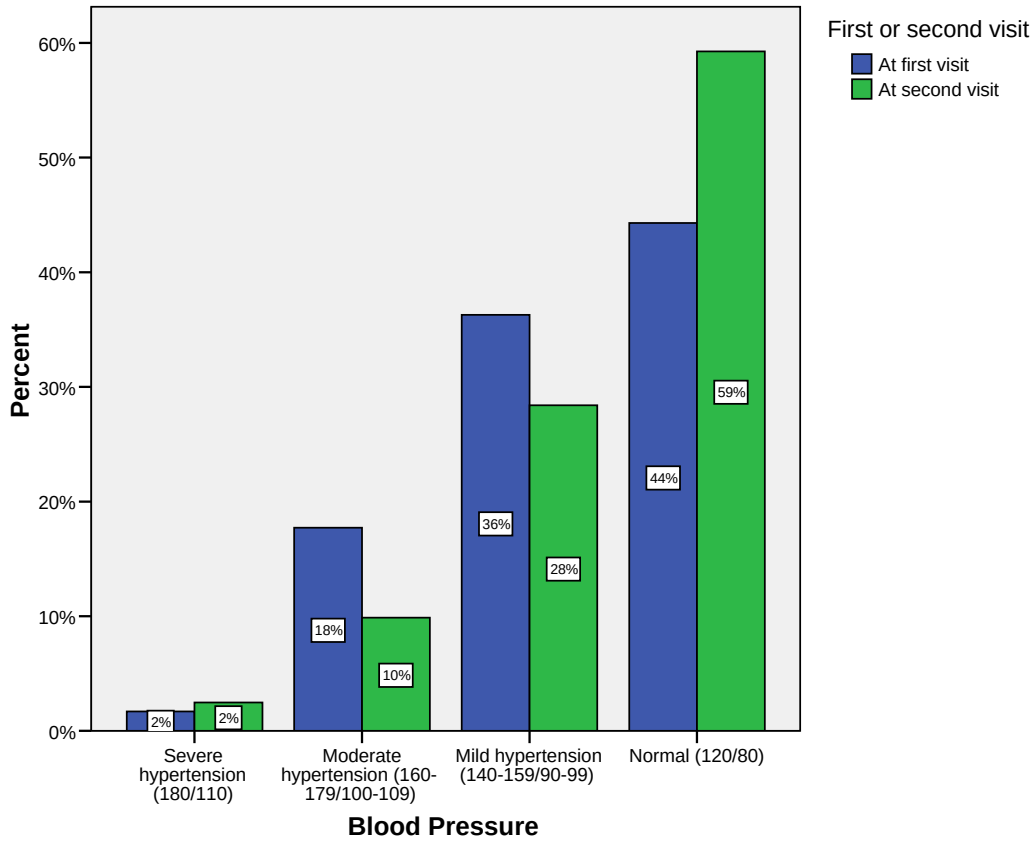
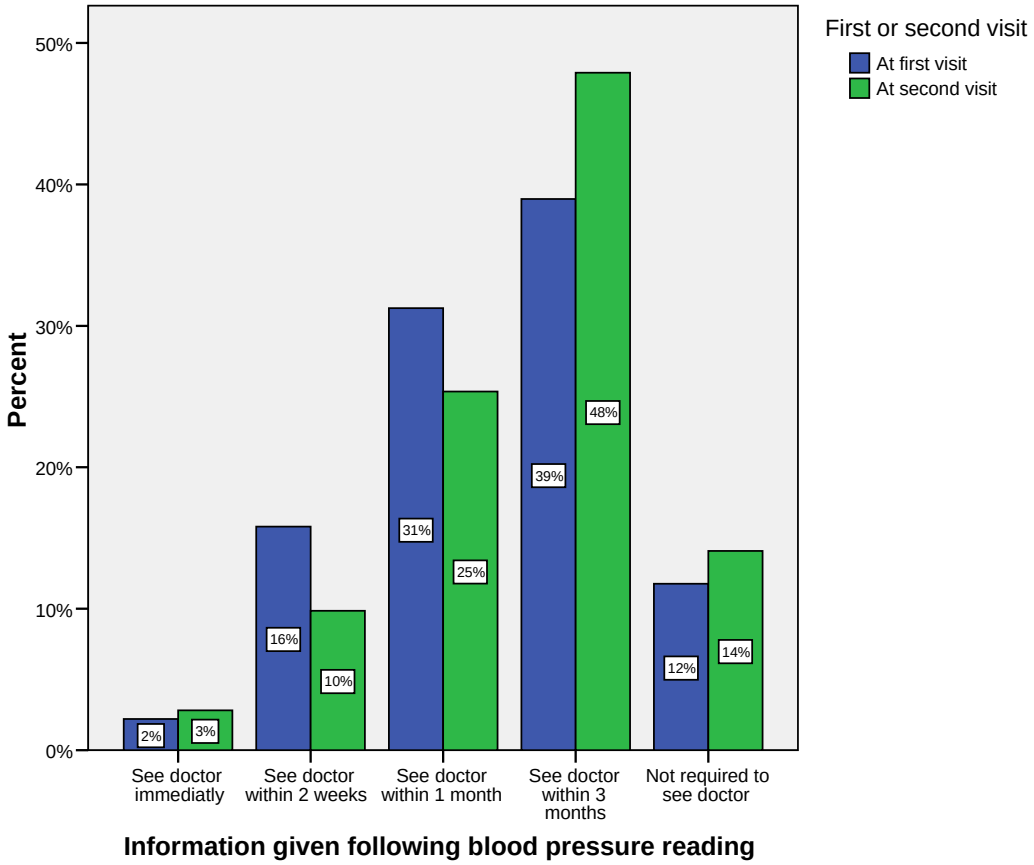


Figure 3.2 shows the information given to those attending the project following their blood pressure reading. The majority of respondents at first (88%) and recall (86%) visit to the project were advised to see their family doctor between one and three months after attending the project. Those advised to see their family doctor within three months or sooner reduced from 49% at first visit to 38% at the second visit. Those advised to see their family doctor within three months increased from 39% to 48%. Overall these changes were not statistically significant (Chi square = 2.859, p = 0.239).

Figure 3.3: Information Given Following Blood Pressure Reading at First and Recall Visit



3.5 Cholesterol

Total Cholesterol levels were less than 5.0 for 61% of those attending both at their first and recall visit to the project with 39% having levels above 5.0 (figure 3.4). Between a quarter and a third of those attending had a cholesterol level of between 5.1 and 6.0 at first (28%) and recall visit (30%). Overall there were no significant changes in cholesterol levels between first (mean = 4.88) and at recall (mean = 4.84) visits (paired T test, p= 0.600).

Figure 3.4: Cholesterol Levels at First and Recall Visit

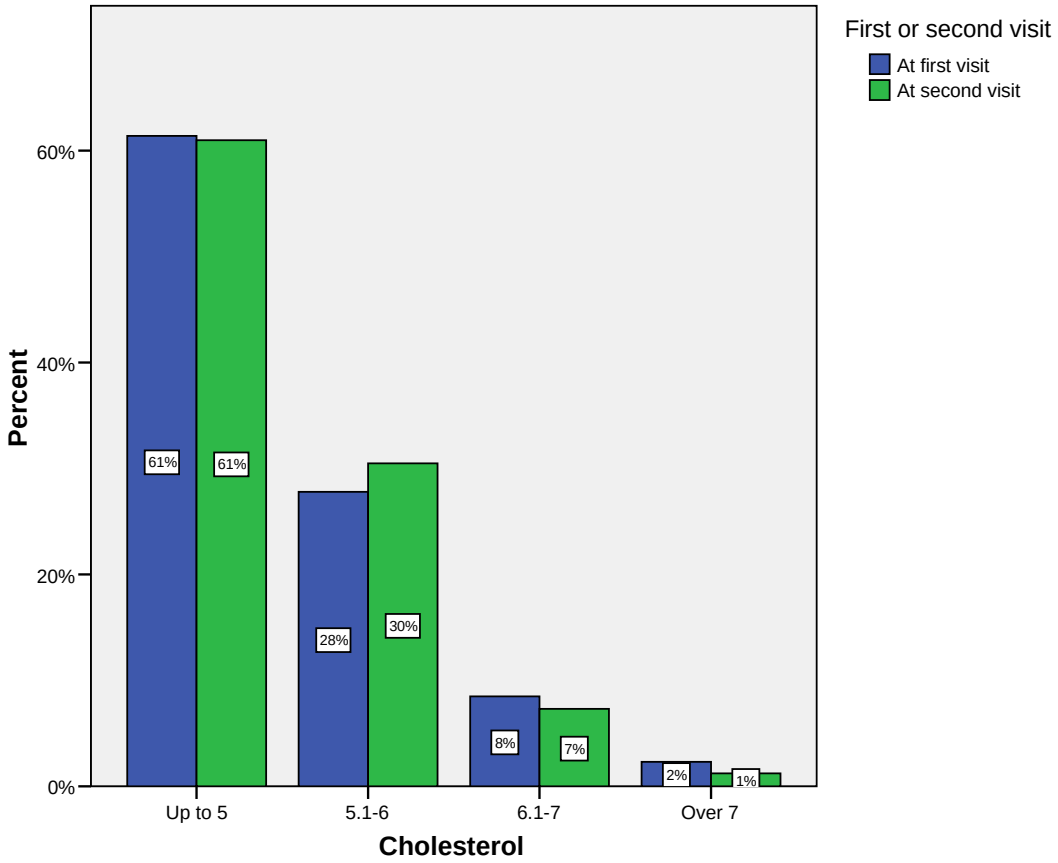
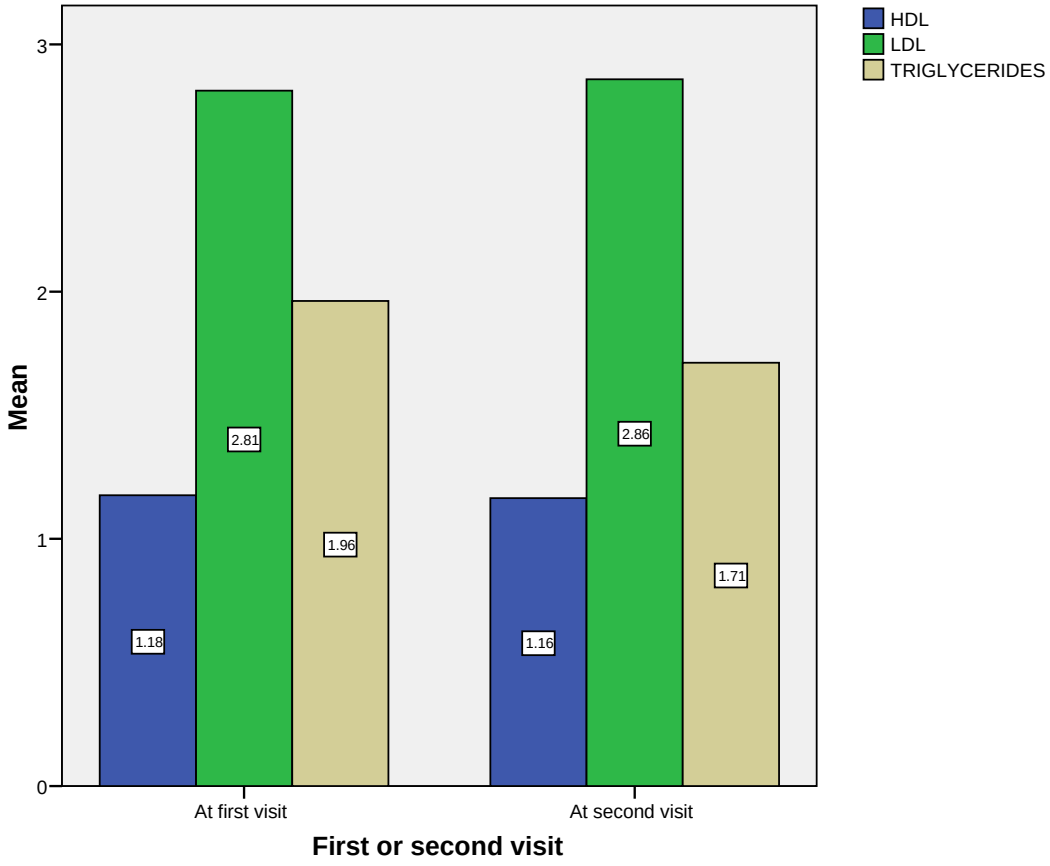


Figure 3.5 gives a breakdown of cholesterol results, giving the mean level for HDL, LDL, and triglycerides at the first and recall visit to the project. It can be seen that mean levels decreased for HDL and triglycerides and increased for LDL. These changes were not statistically significant (paired T test, p = 0.874 for HDL, p = 0.294 for LDL, p = 0.293 for triglycerides).

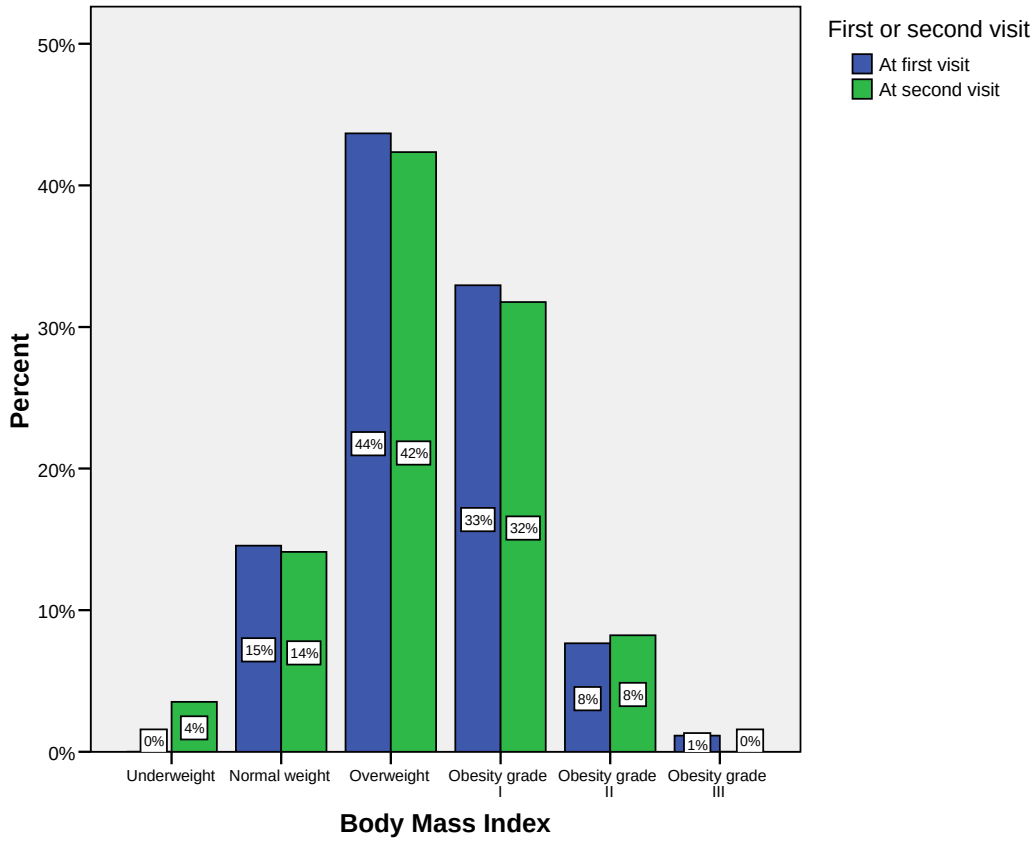
Figure 3.5: Components of Cholesterol at First and Recall Visit



3.6 Body Mass Index

From figure 3.6 it can be seen that 85% of those attending the project at first visit and 82% at their recall visit were classified as overweight or obese. A total of 15% were classified as having normal weight at first visit and 14% at recall visit. The average body mass index at first visit was 29.28 which decreased to 28.09 at recall visit. This decrease was statistically significant (paired T test, p = 0.033).

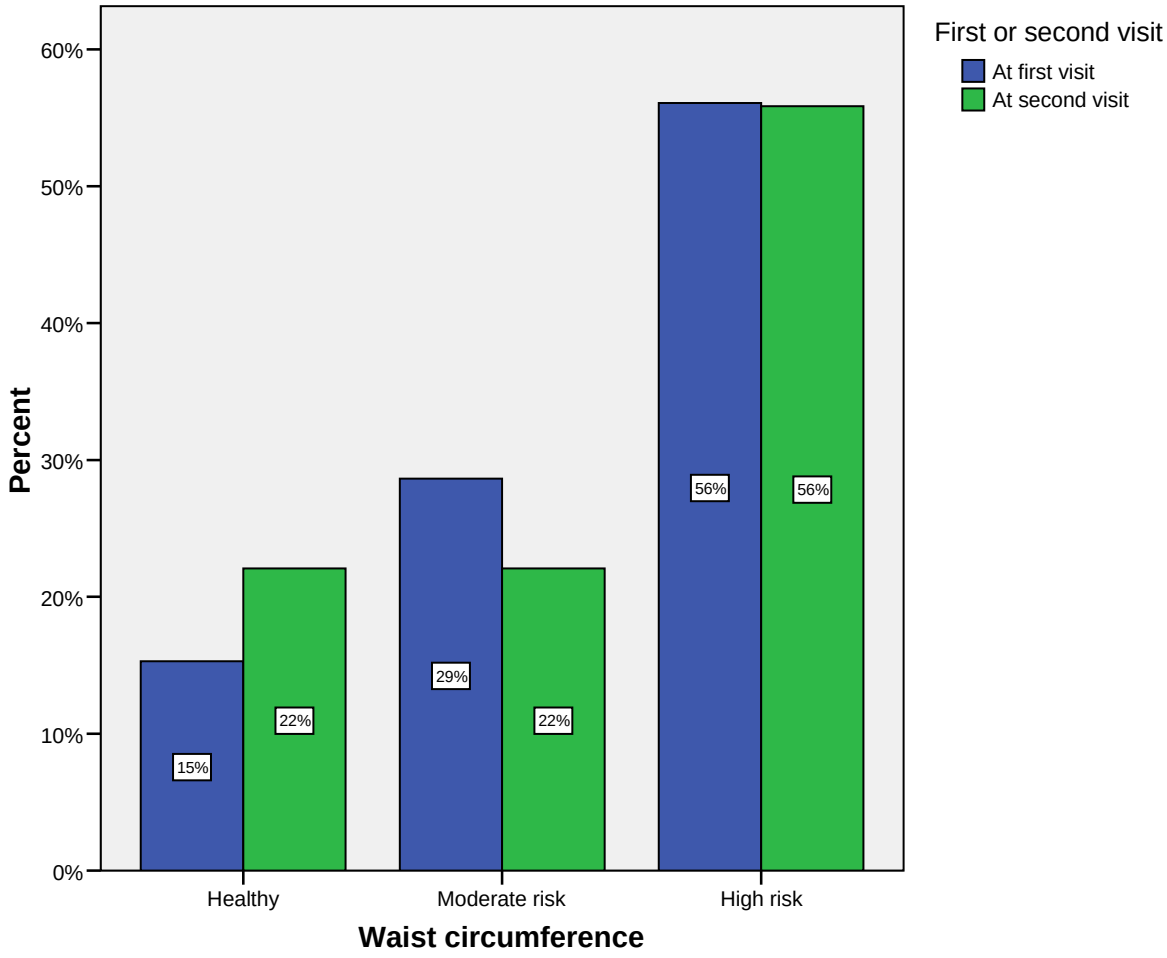
Figure 3.6: Body Mass Index at First and Recall Visit



3.7 Waist Circumference

Figure 3.7 shows respondents' waist circumference at their first and recall visit to the Farmers Have Hearts Project. It can be seen that 56% of respondents at both first and recall visit are classified as high risk. The average waist circumference for males is 104.49cm at first visit and 102.43cm at recall visit. This decrease is not statistically significant (Paired T test, p = 0.074). The average waist circumference for females is 96.97cm at first visit and 97.77cm at recall visit. This increase is not statistically significant (Paired T test, p = 0.650).

Figure 3.7: Waist Circumference at First and Recall Visit



5. DISCUSSION

5.1 Introduction

The Farmers Have Hearts cardiovascular screening project has been operating in County Roscommon since 2005 and aims to address rural men's cardiovascular health. This report provides an evaluation of the data collected during the Project. The key issues arising from the evaluation will now be discussed.

5.2 Numbers Attending

In 2007, a total of 291 people attended the Project. On average 15 to 20 people attended the Project each day it operated. As the project involves a number of different health assessments, it is not possible for large numbers of individuals to access the Project each day it operates. However, there may be scope to increase the number of attendees at some locations. Methods of communicating information about the Project should be investigated to optimise attendance. In addition, it is also worth noting that the project has only currently been accessed by a small proportion of farmers in County Roscommon. In 2006 there were 2669 farmers/agricultural workers in County Roscommon. Although the Farmers Have Hearts project will not be able to access all these individuals, it does highlight the need for the Project to be ongoing. In addition, further initiatives targeting farmers also need to be developed to help reduce the risk of cardiovascular disease in this population group.

5.3 Blood Tests

High blood pressure and cholesterol are major risk factors for cardiovascular disease. However they can be improved through preventative measures (Torpy et al, 2003). The review established that 56% of those attending the Project had high blood pressure and 39% had high cholesterol. This finding is similar to the Irish population overall (over 45 years old) for blood pressure and somewhat lower for cholesterol (Morgan et al, 2008). By attending the project, these individuals were made aware of their raised blood pressure and cholesterol, and informed how this may be addressed.

The review suggests that this did have some impact on the individuals who attended the recall visit to the Project. Although cholesterol levels remained unchanged, the proportion of those with high blood pressure significantly reduced to 40%.

Blood glucose (sugar) were obtained from the blood test, this would be considered a random blood glucose (sugar). If the random blood glucose (sugar) is raised i.e. > 5.6–11.00 mmol/l (Diabetes UK, 2006) clients were asked to go to see their family doctor and get a fasting blood glucose (sugar) level done. The HSE West's Diabetes Resource Manual (2007) and The American Diabetes Association (2008) recommend that fasting plasma glucose (sugar) should be used to diagnose diabetes. Undiagnosed diabetes represents a significant health concern and is a condition, which is on the increase due to people's lifestyle. As undiagnosed diabetes represents a significant health concern, this raises the issue of whether those attending the Project should be asked to fast before attending. Blood glucose (sugar) levels could then be used as a basis for a referral to their family doctor for a more detailed assessment. Fasting would make the triglycerides results more accurate. It is suggested that the option of fasting should be considered if the Project is to be offered in the future.

5.4 Obesity

Obesity is a major worldwide public health problem. In Ireland, 39% of adults are overweight, and 18% are obese, with obesity in adults increasing by at least 1% every year (Department of Health and Children, 2005). The review has shown that these obesity levels are significantly greater among those who attended the Farmers Have Hearts Project. At their first visit to the Project, 44% were classified as overweight and 42% as obese. In addition, over half were classified as at high risk in terms of their waist circumference. The majority of those attending the project clearly needed to significantly reduce their weight. Attending the Project was particularly beneficial for such individuals, as they could discuss their weight with a Dietician. This appears to have had an impact on those attending the Project for a recall visit, who overall experienced a significant reduction in their body mass index. Despite this, a significant proportion (82%) remained overweight or

obese on their recall visit to the Project, with no significant changes in waist circumference. This suggests that there may be a need for ongoing support for these individuals to help them reduce their weight. There may be a need for the Community Dietician to consider following up all those who attended the project that were classified as overweight or obese.

5.5 The Recall Visit

All those who attended the Farmers Have Hearts Project who were classified in categories 1-4 were invited to a recall visit six months after their initial visit. Those who attended the recall visit were seen by each health professional again to ascertain if any lifestyle changes had taken place, and these changes were recorded. This provided valuable data for the current review. The clients had the opportunity to ask for further information or specific follow up from the health professionals. Only 21% of those that attended the programme returned for a recall visit. It is unclear why this is the case. One possible explanation is that farmers will only attend the mart if they want to buy or sell livestock. It would be important to increase the proportion of recall visits to help ensure the Project is contributing to better health outcomes for those that attend. It is suggested that systems to improve the number of people who attend the Project for a recall visit should be investigated.

5.6 Measuring Physical Activity Levels

Participating in physical activity significantly reduces the risk of developing or dying from cardiovascular disease (US Department of Health and Human Services, 2000). Regular participation in physical activity also provides many physical and mental health benefits (Pitts et al, 1996). It can also protect against degenerative diseases (WHO, 2002). According to the WHO (2002, 2006), current physical inactivity trends are due to the increased mechanization of work and daily tasks, the increase in sedentary work and the use of labour–saving devices. This issue is particularly important when considering the health of farmers, as the farming industry has become highly mechanised. It would be important that any project that aimed to improve the health of farmers would assess farmers' physical activity levels against recommended guidelines. Whilst a

detailed physical activity assessment was conducted as part of the Project, the only data collected for evaluation purposes was the fact that 39% of farmers were participating in physical activity when they first attended the project. There is a need to collect more detailed information on physical activity to ensure that the project is having an impact on physical activity levels, and that any physical activity that is being undertaken meets recommended guidelines to improve heart health (e.g. American College of Sports Medicine, 2007).

6. CONCLUSIONS AND RECOMMENDATIONS

The Farmers Have Hearts Project has bee able to access people from outside the traditional primary care setting, e.g. attending their family doctor for a specific illness. The evaluation demonstrates that it had a positive impact on those attending over a relatively short period of time. The evaluation suggests that the Farmers Have Hearts Project should be continued. The following recommendations have been identified to enhance and further develop the Project in the future:

1. Further initiatives targeting farmers need to be developed to help reduce the risk of cardiovascular disease in this population group.

2. Methods of communicating information about the project should be investigated to optimise attendance.

3. The Community Nutrition & Dietician Service should consider following up all those who attended the project who were classified as overweight or obese.

4. Consideration should be given to asking Farmers to fast before they attend the project to facilitate diagnosis of impaired glucose tolerance (sugar) and diabetes.

5. Systems to improve the number of people who attend the project for a recall visit should be investigated.

6. More detailed information on physical activity should be recorded to ensure that the project is having an impact on physical activity levels, and that any physical activity that is being undertaken meets recommended guidelines to improve heart health.

1. REFERENCES

American College of Sports Medicine (2007) Guidelines for Physical Activity and Health (www.acsm.org/physicalactivity or www.americanheart.org/fitness)

American Diabetes Association (2008) Standards of Medical Care in Diabetes-2008, Position statement, Diabetes Care, V31, Supplement 1, s12-S54.
Available at:
http://care.diabetesjournals.org/cgi/reprint/31/Supplement_1/S12
Accessed 28th October 2008.

Balanda K. P. and Wilde, J. (2001), Inequalities in Mortality. A report on All –Ireland, Mortality Data, Institute of Public Health.
Available at:
http://www.publichealth.ie/files/file/Inequalities%20in%20Mortality.pdf
Accessed 28th October 2008.

Department of Health and Children (1999) Building Healthier Hearts. National Cardiovascular Health Strategy. Dublin Stationary Office.
Available at:
http://www.dohc.ie/publications/pdf/heart.pdf?direct=1 (introduction) and http://hse.openrepository.com/hse/bitstream/10147/45832/1/9380.pdf (full report) Accessed 2nd January 2009.

Department of Health and Children (2000). The National Health Promotion Strategy 2000-2005. Dublin Stationary Office.
Available at:
http://www.dohc.ie/publications/pdf/hpstrat.pdf?direct=1 Accessed 2nd January 2009.

Department of Health and Children (2001). Quality and Fairness, A Health System for You, Health Strategy, Dublin Stationary Office. Available at: http://www.dohc.ie/publications/pdf/strategy.pdf?direct=1 Accessed 2nd January 2009.

Department of Health and Children (2005) Obesity, the Policy Challenges, The Report of the National Taskforce on Obesity 2005. Available at: http://www.dohc.ie/publications/pdf/report_taskforce_on_obesity.pdf Accessed 28th October 2008.

Daibetes UK (2006) Position Statement, Early identification of people with Type 2 diabetes, p1-10. Available at: http://www.diabetes.org.uk/Documents/Professionals/Earlyid_TYPE2_PS.doc Accessed 2nd January 2009.

European Society of Cardiology (2007) Cardiovascular Disease Prevention in Clinical Practice, Pocket Guidelines. Available at: http://www.escardio.org/guidelines-surveys/products/pocket/Pages/PREV.aspx Accessed 14th January 2009.

Health Service Executive (2007) *HSE West Diabetes Resource Manual.Version 1.*

Health Service Executive (2008). Diabetes Expert Advisory Group First Report: April 2008, Health Service Executive, Oak House, Millennium Park, Naas, Co. Kildare. Available at: http://www.diabetes.ie/WebSite/Images/Diabetes_EAG_First_Report_08.pdf Accessed December 30 2008.

Humphreys, J.S., Matthews-Cowley, S. & Weinard, H.C. (1997) factors in accessibility of general practice in rural Australia. Med J Aust Jun 2 166 (11) 577-80 Available at: http://www.mja.com.au/public/issues/jun2/humphrey/humphrey.html Accessed 5th January 2009.

Institute of Public Health in Ireland (2005). Health Impacts of Transport, A Review, March 2005.
Available at:
http://www.publichealth.ie/files/file/IPH_Transport_text_44pp.pdf
Accessed 5th January 2009.

Jennings, S. (2007) Ireland: Take Heart, Audit of Progress on the Implementation of Building Healthier Hearts 1999-2005, Health Service Executive.
Available at:
http://hse.openrepository.com/hse/bitstream/10147/45475/1/7960.pdf Accessed 5th January 2009.

Kreamer, S. (2000) The Fragile Male. BMJ: 321 1609-1612
Available at:
http://www.bmj.com/cgi/reprint/321/7276/1609 Accessed 5th January 2009.

Mc Evoy, R. Richardson, N. (2004) Men's Health In Ireland. A report From the Mens Health Forum in Ireland. MHFI Press, Belfast.
Available at:
http://www.mhfi.org/fullreport.pdf Accessed 5th January 2009.

Morgan K, McGee H, Watson D, Perry I, Barry M, Shelley E, Harrington J, Molcho M, Layte, R, Tully N, van Lente, E, Ward M, Lutomski J , Conroy R, Brugha R (2008). SLÁN 2007: Survey of Lifestyle, Attitudes & Nutrition in Ireland. Main Report. Dublin: Department of Health and Children.
Available at:
http://www.esri.ie/UserFiles/publications/20080429170439/BKMNEXT116.pdf Accessed 13th October 2008.

Pitts, E.H (1996) The Surgeon General's Call to Action, Fitness Management, Vol. 12, No. 9, 36-38, August 1996
Available at:
http://fitnessmanagement.com/articles/article.aspx?articleid=271&zoneid=15 Accessed 5th January 2009.

O' Donovan, D (2008) The Atlas of Health: Mapping the challenges and causes of diseases, Earthscan, p46

Qiao, Q., Keinänen-Kiukaanniemi, S., Rajala, U., Uusimäki, A. & Kivelä, S. -L. (1995). Random capillary whole blood glucose test as a screening test for diabetes mellitus in a middle aged population. Scandinavian Journal of Clinical and Laboratory Investigation, 55 (1), 3-7.
Available at:
http://www.informaworld.com/10.3109/00365519509075372
Accessed October 29, 2008.

The Heartwatch National Programme Centre and The Independent National Data Centre (2006). The National Heartwatch programme, Heartwatch Clinical Report. March 2003 to December 2005, Second Report, June 2006.
Available at:
http://www.icgp.ie/index.cfm?spKey=courses.heartwatch.news_updates&spId=81D05980-EF5F-849F-002406030CE63FC9&highlight=heartwatch Accessed 5th January 2009.

Thompson, I.M., Kouril, M., Klein, E.A., Coltman, C.A., Ryan, A. & Goodman, P. (2001) The Prostate Cancer Prevention Trial: Current Status and Lessons Learned, Urology; April 57 (4 Suppl. 1) p230-234.
Available at:
http://www.ncbi.nlm.nih.gov/pubmed/11295634
(abstract) Accessed 6th January 2009.

Torpy, J. Lynn, C. Glass, R.M. Risk Factors for Heart Disease, JAMA V297 (7), p980.
Available at:
http://jama.ama-assn.org/cgi/reprint/290/7/980 Accessed 16th October 2008.

Williams, B. Poulter, N.R., Brown, M.J., Davis, M., McInnes, G.T., Potter, J.F., Sever, P.S., Thom, S.M. (2004). British Hypertension Society Guidelines for hypertension management 2004 (BHS_IV): summary, BMJ V238, March 2004, p634-640.
Available at: http://www.bmj.com/cgi/reprint/328/7440/634 Accessed 3rd Sept 2008.

US Department of Health and Human Services (2000) *Healthy People 2010. 2nd edition,* Understanding and Improving Health and Objectives for Improving Health, 2 vols, Washington DC, US Government Printing Office.
Available at:
http://www.healthypeople.gov/Document/tableofcontents.htm#volume1
Accessed 2nd January 2009.

World Health Organisation and The International Society of Hypertension (1999), Guidelines for the management of hypertension, Journal of Hypertension V17, p151-183.

Available at: http://www.eshonline.org/pdf/whoish99.pdf Accessed 3rd Sept 2008.

World Health Organisation. (2002) The World Health Report: Reducing Risks, Promoting Healthy Life, Geneva.
Available at:
http://www.who.int/whr/2002/en/whr02_en.pdf Accessed 6th January 2009.

World Health Organisation (2006) The Solid Facts. Promoting physical activity and active living in urban environments, The role of local governments, Geneva: WHO
Available at:
http://www.euro.who.int/document/e89498.pdf Accessed 6th January 2009.

APPENDIX 1

Intake form

Farmers Have Hearts

REGISTRATION Roscommon	Date	Category visit 1
REFERENCE NO	Date	Category visit 2

HEALTH PROMOTION

Q1 Do you smoke

Yes	1
No	2

Q2 Do you drink alcohol yes / no

Pints	Shorts	Wine	Others

Q3 Alcohol units per week

Q4 Do you take exercise

Yes	1
No	2

Q5 Do you take medication

Yes = 1	No = 2

Q6 Who does the cooking

Self 1	Partner 2	Others 3

Q6 Family History of CHD/Stroke/Diabetes

Yes	1
No	2

NURSE

Q 7	Date	Chol	HDL	LDL	Trigly	BL.Sugar	B/P Cat

Q8a Advised to go to the GP

Yes	1
No	2
Not applicable	3

Q8b Go to the GP in within

A week	1
One month	2
Three months	3

Q9 Did you attend the GP

Yes	1
No	2

NUTRITION

Q 10	Date	HGT	WGT	BMI	Cat	Waist cir	Assessment

Q11 Did you make dietary changes

Yes	1
No	2

PHYSICAL ACTIVITY

Q12 What is your current level of physical activity?

	Not interested (1) Go to Q15	Interested-Start (2) Go to Q 13 + Q 15	Active (3) Go to Q 14 + Q 15
Date			
Date			

Q13 List activities you enjoy and select time available to you? List three days

Day		Days Visit 1 date	Days Visit 2 Date	Activity		Act.visit1 date	Act. visit 2	Time visit 1 date	Time Visit 2 Date
Sun	1			Walking	1				
Mon	2			Cycling	2				
Tues	3			Swim	3				
Wed	4			Garden	4				
Thurs	5			Horse-r	5				
Fri	6			Gym	6				
Sat	7			Other	7				

Q14 If you are already active, what activities do you participate in and for how long?

Activities		Act.Visit 1 Date	Act.Visit 2 Date	Duration		Dur visit 1 Date	Dur visit 2 Date
Walking	1			Less 30 mins	1		
Cycling	2			30 mins	2		
Swimming	3			30-40 mins	3		
Gardening	4			40-50 mins	4		
Gym	5			50-60 mins	5		
Farm -work	6			Over 1 hour	6		
Other	7			Other	7		

Q15 List two benefits you achieve/would like to achieve from being active?

Benefits		Visit 1-Date	Visit 2-Date	
Improve Health	1			
Lower BP	2			
Lwr chol	3			
Weight Loss	4			
Tone Up	5			
Healthy Heart	6			
More Energy	7			
Fitness	8			
Cope Stress	9			
Fresh Air	10			
Enjoy it	11			
Help my partner	12			
Other	13			

APPENDIX 2

List of forms used in the 'Farmers Have Hearts' project which can be made available on request:

1. Registration Form.
2. Consent Form.
3. First Questionnaire.
4. Final Questionnaire.
5. Guidelines.
6. Recall letter.