CVD Prevention and Control (2008) 3, 61–68

ELSEVIER

WORLD HEART FEDERATION®

www.elsevier.com/locate/precon

# Social marketing leverage for heart health: The Ekaterinburg experience

**Sania Nishtar [a], Helen Alderson [b], Danielle Grizeau-Clemens [b,*], Svetlana Anatolievna Shalnova [c], Galina Kolotova [d]**

[a] *Heartfile, 1 Park Road, Chak Shazad, Islamabad, Pakistan*
[b] *World Heart federation, 7 rue des Battoirs, CH-1211 Geneva, Switzerland*
[c] *Russian society of Cardiology, 10 Petroverigsky Lane, 101990 Moscow, Russian Federation*
[d] *Ekaterinburg City, Public Health Care Administration, 19 Turgeneva Street, 620075 Ekaterinburg, Russian Federation*

Received 5 February 2007; revised 25 September 2007; accepted 16 October 2007
Available online 11 February 2008

**KEYWORDS**
Cardiovascular disease;
Risk factors;
Community intervention;
Social marketing;
Healthy lifestyles;
Media campaign;
Awareness;
Prevention;
Russian federation

**Summary** The Russian Federation has one of the lowest life expectancies in Europe, as well as having the highest rates of death and disability due to cardiovascular disease (CVD). In order to sensitize the professional and public-health community and the public to the growing challenge of cardiovascular disease, the World Heart Federation, in partnership with the Russian Society of Cardiology and the City Public Health Care Administration and with the support of Unilever Bestfoods, carried out a pilot social marketing project in the central Russian city of Ekaterinburg. The primary objective was to assess the viability of a cardiovascular disease-focused social marketing campaign in terms of its diffusion in the population and its acceptability. The social marketing campaign itself involved community interventions, a mass media campaign and training of health care professionals. Progress towards achieving this and the secondary objectives were measured by evaluating changes in a set of predetermined output and outcome indicators. A pre-test/post-test control-group quasi-experimental design was used for examining project outcomes. The results showed a significant level of acceptability and diffusion, which need to be further developed for large-scale use. Because of its short duration, the project cannot be held to expectations of influencing behavioural risk, but in terms of meeting its primary objective, it has been successful.
© 2007 World Heart Federation. Published by Elsevier Ltd. All rights reserved.

* Corresponding author. Tel.: +41 22 807 03 24; fax: +41 22 807 03 39.
*E-mail address:* d.g-clemens@worldheart.org (D. Grizeau-Clemens).

1573-2088/$ - see front matter © 2007 World Heart Federation. Published by Elsevier Ltd. All rights reserved.
doi:10.1016/j.precon.2007.10.002

## Introduction

Cardiovascular diseases are the leading cause of death worldwide. Every year, approximately 17.5 million people die from cardiovascular disease; 80% of these deaths — representing one-third of all deaths worldwide — occur in low and middle-income countries [1].

The Russian Federation has one of the lowest life expectancies in Europe, with an average age at death of 59 years and 72 years for men and women, respectively [2]. The country also has the highest rates of death and disability due to CVD, accounting for 55% of total deaths and 30% of deaths in people under the age of 65 years [3].

All risk factors leading to cardiovascular disease can be identified in the Russian population [3,4]. It is estimated that as many as 60% of men and 51% of women have arterial hypertension (blood pressure >140/90 mmHg). In the age group 25—64 years, 24% of men and 32% of women have high cholesterol levels (total cholesterol $\geqslant$250 mg/dL); only 35% of men and 47% of women engage in regular exercise; 35% of men consume more than 20 g of pure alcohol a day and 61% of men and 27% of women smoke while 38% of boys and 29% of girls between the ages of 13 and 15 already consider themselves as smokers.

In order to sensitize the professional and public health community and the public to the growing challenge of cardiovascular disease, the World Heart Federation, in partnership with the Russian Society of Cardiology, the City Public Health Care Administration and Unilever Bestfoods, carried out a pilot social marketing project in the central Russian city of Ekaterinburg in 2004.

The primary objectives of the project were:

- to assess the viability of a cardiovascular disease-focused social marketing campaign in terms of its diffusion in the population and its acceptability.
- to increase knowledge and awareness levels amongst the population about CVD, its risk factors, and the link between healthy lifestyles and a healthy heart over a four-month period, in order to assess whether a social marketing intervention of this duration would increase knowledge and awareness among the population regarding CVD, its risk factors and the link between a healthy lifestyle and a healthy heart.

The project also had secondary objectives, which were:

- to create or revitalize a local network of health workers to work in CVD prevention.
- to influence social norms regarding healthy lifestyles.

The goal was to create a model which could later be replicated in other areas and/or neighbouring countries.

The hypotheses, which the World Heart Federation set out to address were the following:

- the Russian population is largely unaware that individual behaviour and lifestyle choices can influence one's health.
- the Russian health care community lacks training in prevention and is insufficiently involved in counselling patients on prevention and disease management.
- a social marketing intervention aimed at increasing awareness of the importance of taking action to prevent disease in general and CVD in particular can diffuse into the communities, would be acceptable and feasible and would increase the knowledge levels of the target population to some extent.

In the longer term, an intervention of this type could ultimately modify social norms and thus facilitate further interventions aimed at changing actual behaviour.

## Methods

Progress towards achieving the primary objectives of the project was measured by evaluating changes in a set of predetermined output and outcome indicators (Table 1).

The following criteria were used to select the city in which the project was to be carried out:

- population of 1 million or slightly less in order to avoid any undue influence of characteristics specific to that city and to ensure that the population will receive the message. A conscious decision was made to avoid the Russian megacities.
- existence of a medical university and an active branch of the Russian Society of Cardiology.
- dynamic local media.
- commitment and involvement of the local authorities and health care administration.

On the basis of these criteria, the central Russian city of Ekaterinburg was chosen. The city is situated right on the border between Europe and Asia, 50 km to the east of the Ural mountains. Ekaterinburg, with a population of just over

**Table 1** Project objectives and main evaluation indicators

*Objective 1:* to assess the viability of a cardiovascular disease-focused social marketing campaign in terms of its diffusion in the population and its acceptability.
*Indicators*: proportion of the population reached by each of the social marketing activities; level of retention of each of the activities; attitude towards the campaign.

*Objective 2:* to increase knowledge and awareness levels amongst the population over a four-month period about CVD, its risk factors and the link between healthy lifestyles and a healthy heart.
*Indicators*: proportion of individuals with the correct perception about the importance of the CVD burden in the Russian Federation; the relevant risk factors; the benefits of physical activity; healthy diet; smoking; passive smoking; ''good fats'' vs ''bad fats''; fruit and vegetable consumption; their own weight.
To assess whether a four-month social marketing intervention would increase knowledge and awareness among the population regarding CVD, its risk factors and the link between a healthy lifestyle and a healthy heart.
*Indicators*: level of retention of each of the key messages of the campaign; level of correct perception and understanding of each of the key messages; attitude towards the campaign; level of personal concern provoked by the campaign.

1.3 million, is among the five largest cities in the Russian Federation, after Moscow and St. Petersburg, although it is much smaller than these two. The size of the population was larger than desired but Ekaterinburg was the only city where the size of the population was not too far removed from the criteria and which matched the other criteria.

Relevant demographic statistics for Ekaterinburg include the following [5]:

- population: 1,324,000, of whom 46% are men and 56% are women.
- 16% of the male adult population over 60 years of age.
- 26% of the female adult population over 60 years of age.
- life expectancy: 57.2 years for men and 71.2 years for women.
- literacy rate of 99%.
- ethnic mix: There are 100 nationalities represented in the Sverdlovskaya district, of which 88.7% are Russian.
- gross national product (GNP) per household (Table 2).

## Intervention

The social marketing campaign, branded ''Keep your heart healthy!'' took place from September to December 2004. It involved a series of ongoing activities, with specific events targeting health care professionals, the media and the general public. A description and brief evaluation of each component of the campaign follows.

### Community intervention component

The primary target group for this campaign was the general public of Ekaterinburg, reached both through an ongoing media campaign and through several direct activities (Tables 3 and 4).

#### Screening

Public screening sessions of blood pressure, cholesterol and body mass index (BMI) were organized over a two-week period around World Heart Day (26th September 2004) in shopping malls, public administration buildings, factories, hospitals and the university. This also provided the opportunity to disseminate information and advice on risk factors and healthy lifestyles. In total, 5384 people were screened. Of these, 32.4% of men and 25.8% of women had blood pressure higher than 140/90 mmHg; 11.9% and 18.2%, respectively had high cholesterol levels (>6.5 mmol/L); 40.9% of men and 42.3% of women had a BMI of over 25. Nevertheless, the blood pressure and cholesterol levels of those tested are below the national average for the Russian Federation.

#### Telephone hotline

A telephone hotline, ''Doctor on the phone'', was set up for the duration of the campaign for four hours a day on weekdays. The average number of

**Table 2** GNP per household, Sverdlovskaya oblast[a]

| USD | <100 | 100—149 | 150—199 | 200—329 | 330—499 | ⩾500 |
|---|---|---|---|---|---|---|
| % | 12.50 | 13.50 | 17.70 | 36.10 | 1.50 | 1.50 |

[a] Data available only for the whole of Sverdlovskaya oblast, which includes the city of Ekaterinburg.

**Table 3** Roles and responsibilities of the principal partners

| Organization | Role |
|---|---|
| World Heart Federation | Conceptualized the project; took primary responsibility for planning and overseeing the implementation; developed the tools and material. |
| Russian Society of Cardiology | Participated in the conceptualization of the project; took primary responsibility for the training of health care professionals and the involvement of the local medical community. |
| Ekaterinburg Public Health Care Administration | The key player in the implementation of the community intervention component; coordinated all the local partners and the media; ensured the sustainability of the project in the long term. |
| Unilever Bestfoods | Provided the funding for the project; provided local know-how, e.g. contact with the public relations and market research agencies; participated in the conceptualization of the project. |

**Table 4** Ekaterinburg 2002 census data

| | % |
|---|---|
| *Gender* | |
| Males | 47 |
| Females | 53 |
| *Age*[a] | |
| 18–24 | 17 |
| 25–34 | 23 |
| 35–44 | 30 |
| 45–54 | 21 |
| 55–60 | 10 |

[a] Percentages do not add exactly to 100 owing to rounding.

calls per week varied considerably, between 84 and 18, with a peak of interest during the first two months of the campaign. Most of the questions were medically-oriented, as opposed to lifestyle-oriented, and focused on symptoms, medication, hospital locations and where to obtain counselling, as well as numerous questions about the campaign itself.

**''Health Day''**

The City Public Health Care Administration launched a ''Health Day'' halfway through the campaign, in which over 600 people participated. Events included aquagym and belly dancing classes for women of all ages, smoking cessation counselling, sessions for teenagers on how to resist peer pressure, exhibitions, etc.

**Public lectures**

In total, 30 lectures were given by doctors who had received training at the beginning of the campaign. These were attended by a total of approximately 2000 people. These lectures focused on the prevention of CVD and its risk factors. The lectures were given to university students, factory workers and company employees. They deliberately targeted a young audience, since half of them took place in university faculties.

**Promotional materials**

Posters and leaflets focusing on the main risk factors were developed for the campaign, based on pre-existing material from the Unilever Health Institute. Over 100,000 leaflets were distributed during the screenings and public lectures, as well as from boxes placed in shopping malls, factories and public administration buildings and kept constantly replenished.

**Round table: ''Take care of your heart while you are still young''**

A round table bringing together personalities from very different walks of life was organized to raise awareness that lifestyle risk factors need to be dealt with as soon as possible, rather than later on in life. The group included personalities such as the Head of the Ekaterinburg Circus, the Director of the State Philharmonic Orchestra, the beauty queen Miss Ekaterinburg, the Head of the City Public Health Care Administration and the Chairman of the City State Duma, as well as ''Uralskie Pelmeni'', a well-known group of young, local comedians. This event raised awareness among some key influencers and generated a dozen features in the local media.

**Cardio workshops and best-patient competitions**

Some activities were targeted directly at patients. One involved free weekly ''cardio workshops'' for patients at the polyclinic of City Hospital No. 33, the ''New Hospital''.

The City Public Health Care Administration took the initiative of launching a ''best patient'' competition with a blood pressure monitor as the prize. The winners were an 84-year-old man who had dramatically changed his lifestyle since suffering a heart attack, and a 70-year-old woman who had

integrated lifestyle changes into the successful management of high blood pressure.

## Mass media campaign

### ''Health school'' for journalists

Certain events were targeted directly at the media or a selected group of influencers. One such initiative was the three-day ''health school'' run for 20 journalists from the local media. The aim was to educate them about the risk factors for cardiovascular disease and ways of tackling them, thus providing the journalists with relevant information for themselves as well as helping them to convey an appropriate message to the public. The course was taught by health care specialists, including the chief cardiologist, chief dietician and chief psychotherapist of Ekaterinburg with the help of some local personalities and, in particular, members of the ''Uralskie Pelmeni'' comedy team.

### Public-service television advertisement

Throughout the campaign, a public-service advertisement prepared by the Russian Society of Cardiology and the World Heart Federation was aired on television. The advertisement emphasized some of the main risk factors leading to cardiovascular disease and called for the viewers to take action. Humor was used as it featured a fortune teller explaining that she did not have to look into her crystal ball in order to predict how to ruin one's heart. All that was needed was to consume tobacco, too much alcohol and eat an unbalanced diet and sure enough the heart would stop. As she revealed the risk factors (packet of cigarettes, bottle of vodka, and huge piece of red meat) by pulling away the cloth that covered each, lights in a red heart behind her turned themselves off. She then urged the viewers to take care of their hearts and change their habits. Using a GRP calculation [6], it is estimated that 57,655 people in Ekaterinburg saw the advertisement at least once.

## Media reach

Media coverage was measured throughout the campaign, in terms of both the number of features and the content. The campaign was featured 287 times, 47% of them on the Internet, 24% on the radio, 21% in the written press and 8% on television (excluding the public-service advertisement mentioned above). In order to attract media interest, the campaign turned to local celebrities to act as role models and reinforce the healthy lifestyle message. Top health care officials and medical practitioners, leading politicians, singers, athletes, Miss Ekaterinburg and comedians were thus recruited into the campaign.

The estimated reach of the media campaign was calculated by adding the average audience of each of the 82 media channels (printed mass media, internet resources, television) relaying the campaign using the figures of TNS Gallup Media and the expert agency ''Media plan''. The total audience was thus estimated at 1,373,370. The cross-section of channels relaying the campaign was analysed. The average index of crossing between the 82 channels is 56%, thus the real audience was estimated to be 604,283 (1,373,370 − (1,373,370*56/100)). Only the residents of Ekaterinburg were considered for the calculation of the media reach.

It is calculated that approximately 250,000 people had received direct exposure to the campaign representing one-third of the adult population. This figure was collated by adding the number of participants in the various activities such as the action ''Learn your blood pressure and cholesterol level'', lectures about cardiovascular prevention, healthy days in hospitals with the number of people who received information leaflets.

## Training of health care professionals

The Russian Society of Cardiology wrote a curriculum for a three-day training course, which 26 doctors attended at the beginning of September. The doctors were mostly selected from polyclinics, as they are the first doctors the patients see and they have received very little training in preventive cardiology or lifestyle counselling. Each participant committed himself/herself to giving a series of lectures to the general public during the campaign on the risk factors associated with CVD and on measures that each individual should take to diminish their risk.

# Evaluation

A pre-test/post-test control group quasi-experimental design was used for examining project outcomes. The intervention district, Ekaterinburg, was matched with Samara — sociodemographically similar and located 700 km south-west of Ekaterinburg. The two communities were in different media markets. Cross-sectional surveys were conducted in the intervention and control sites, both before and after the intervention. Male and female volunteers aged between 18 and 60 years (inclusive) were included in the study, but individuals in institutional settings were excluded.

The first wave of the survey, which enrolled 1031 respondents, was carried out in June 2004. As soon as the campaign ended, a second-wave survey of 1007 different respondents was made at both sites. In terms of sampling methodology, a combination of random route procedure and quotas (based on the 2002 census data) on gender and age were used to ensure the representativeness of the sample. The city was stratified into sub-areas linked to the size of the population and the interviews were clustered within each sub-area. The random route survey was used for each interview cluster. The quotas on demographic parameters were used to eliminate the bias towards the demographic subgroups of higher reachablity and to assure that data mirror the population structure.

The questionnaire was compiled from validated questions included in previous studies (CINDI Health Monitor [7], Finbalt Health Monitor [8]). The surveys were conducted by trained interviewers using face-to-face, household interviews. The questionnaire was designed to assess the basic indicators needed to evaluate the impact of the intervention, including:

- level of knowledge and awareness among the population regarding CVD risk factors and ways to prevent disease (in particular CVD) through lifestyle choices.
- attitude of the population to certain policy measures related to CVD risk factors (tobacco).
- physicians' practice related to counselling about healthy lifestyles and risk factors (answers obtained from patients).

The second wave questionnaire included additional questions related to the campaign itself.

The sampling method used was a combination of the random route procedure and quotas on main demographic parameters, intended to ensure the representativeness of the sample vis-à-vis the target audience.

- The first principle was stratification of the city into sub-areas and allocation of the desired sample to each sub-area in proportion to its population. Thus, if the north-west of the city has 20% of the population, 20% of the interviews are conducted in this area. This step ensured that the sample represented each city geographically and in proportion to the populations of the various areas.
- The second principle was clustering of the interviews within each sub-area. The objective was to conduct 5—10 interviews per cluster (each selected randomly). Random route walking was used as the final selection method within each interview cluster. Interviewers were instructed to start at clearly specified points. They then followed exact instructions on how to proceed from one location to another.
- The final principle was pre-assignment of quotas to the sample for basic demographic parameters. This cross-checked the randomness of the previous two principles, eliminating the bias towards the demographic subgroups of higher reachability, and ensuring that the final survey data mirrored the demographic makeup of the populations in question.

In Ekaterinburg, quotas were based on 2002 census data. The same quotas were applied to both waves of interviews, and the sample structure and recruitment method remained unchanged in order to ensure the comparativeness of the data.

## Results

A total of 4075 interviews were conducted, divided almost equally between Ekaterinburg (pre-intervention and post-intervention) and control site (pre-intervention and post-intervention surveys). The response rate to the baseline survey was not kept by the research agency. Usually for this kind of survey, the response rate is between 70% [9] and 80% [10]. Overall, 2048 respondents ($n$ = 1031 in the intervention area and $n$ = 1017 in the control area) completed all the questionnaires of the baseline survey. For the post-intervention survey 1007 people completed the questionnaire in the intervention area, while the response in the control area was 1020 (total 2027).

Results showed that a significantly higher percentage of respondents had seen or heard a social marketing advertisement on health within the last three months in Ekaterinburg than in Samara (64% vs. 32%). Results also showed that more people had seen the public service advertisement in Ekaterinburg, although this result was not statistically significant. More respondents had seen an advertisement 2—3 times in Ekaterinburg compared with Samara, and a significantly higher percentage of respondents had heard radio shows on heart health in Ekaterinburg than in Samara (35.75% vs. 19.9%). Evaluation also showed that a significantly higher percentage of respondents in Ekaterinburg had read articles on a healthy heart in the print media (41.4% vs. 19.3%) and that more people in the intervention city were willing to change their unhealthy behaviour, compared with the area where there was no intervention.

Overall, the campaign was rated as very good by 27.5% of the population, as good by 44.2% and as neither good nor poor by 26.2%; 2% of the respondents thought that the intervention was poor. Of the 443 respondents who reported having seen the intervention, 64% thought that the campaign was convincing, 58% thought that the campaign touched them personally and 47.2% thought that it was of relevance to their family. A total of 71.2% of the respondents in this category thought that the campaign made people think about their heart health, 47% had discussed the materials they had seen with their families and 35% had discussed it with their friends: however, only 25% had discussed it with their doctors.

Despite these favourable trends, indicative of the successful diffusion of the campaign into the community and the acceptability of its design at the population level, the pre-test/post-test, quasi-experimental analysis did not yield significant positive findings, particularly to indicate an increase in knowledge levels in the areas of heart disease risk and the relationships between overweight, high blood cholesterol levels, smoking, physical activity and diabetes. In the area of intervention, significant changes were observed only in relation to knowledge levels about hypertension and its relationship to heart health. However, no other significant changes in knowledge levels were reported in the city of intervention in the post-intervention analysis compared with the pre-intervention analysis, and any significant changes appeared to be incidental. There were also no significant changes observed with reference to practical measures taken in the district of intervention to prevent heart disease, such as reducing consumption of high-cholesterol foods, increasing consumption of fruits and vegetables, increasing physical activity and reducing alcohol intake.

## Discussion

In the health promotion literature, there has been considerable concern about the need to maintain and retain health promotion programmes long term [11–13]. Changes in awareness and knowledge level precede behavioural changes, and morbidity and mortality changes become measurable after about 10 years of intervention. Established CVD community intervention settings, such as in the North Karelia project [14], where significant reductions in mortality and morbidity were demonstrated, were able to reduce mortality through CVDs in the long term by means of effective combined interventions that addressed both individual behaviour and system-level change. However, these were the result of sustainable public health interventions that oriented health systems to the prevention of CVDs, ensured the availability of drugs, devices and service facilities and increased health care providers' awareness of the prevention of CVDs. Another prerequisite was the existence of mortality surveillance systems.

Projects of shorter duration, such as the Lodhran CVD prevention project in Pakistan (http://heart-file.org/lodhran.htm), exposed communities for a shorter length of time, although still more than two years. These projects were not as successful in showing significant changes at the level of practice, though changes at the level of knowledge were seen. Clearly, the duration of intervention is one essential component of a CVD community intervention. However, it is equally important to create the capacity to influence lifestyle, which will bring about behavioural change. The Ekaterinburg intervention had neither the scope nor the resource commitments to fulfill these criteria. It was designed for a very specific purpose, namely to assess the viability of a cardiovascular disease-focused social marketing campaign in terms of its diffusion in the population and its acceptability. Assessing the campaign's potential to increase awareness and knowledge was a secondary objective. For this purpose, social marketing was used as leverage.

The use of social marketing for heart disease prevention is new. Social marketing has been used extensively in reproductive health initiatives in developing countries, where the strategy is known to improve knowledge and awareness among the targeted population. However, it has been applied to only a limited extent in the area of CVDs. Experience in other low-resource countries has shown that mass media coverage of heart disease prevention, combined with social marketing approaches, can enhance the diffusion of messages. In particular, the importance of social marketing in increasing public awareness has been demonstrated in the area of diet, physical activity and smoking. With these behaviours, which are otherwise slow to respond, the repetition of social marketing messages over a period of time has been shown to be an important determinant, and the use of simple tools such as an identifiable logo and mascot is considered a useful part of the approach. These methods were used in Ekaterinburg as an initial step towards an institutional response to the challenge of CVDs in the Russian setting, showing a significant level of acceptability and diffusion, which needs to be further developed for large-scale use. The project has not been reliably shown to influence behavioural risk, but it has demonstrated results which meet its primary objective.

Unlike the numerous initiatives targeted at infectious diseases, there is a striking lack of public–private partnerships in the field of CVD and chronic disease in general. Yet the prevention and treatment of cardiovascular disease can only benefit from a multistakeholder approach. One of the most innovative elements of this project was the multiple partnerships created. Unilever Bestfoods was a vital partner in the whole project, not only providing financial support but also helping on the ground to choose the city, the appropriate public relations agency (Newton) and the market research company (Ipsos). Unilever's involvement was within the context of a long-term partnership with the World Heart Federation aimed at improving heart health notably by increasing awareness of the major cardiovascular risk factors. This project enabled the company to demonstrate that it can be a responsible partner in a community project. While Unilever had no influence on the content of the intervention, the results enabled it to gauge the potential of the Russian market for heart healthy products.

The local media were extremely dynamic in conveying the campaign to the general public. The World Heart Federation worked with its member organization in the Russian Federation, the Russian Society of Cardiology, in the training of health care providers. Most noteworthy was the commitment of the City Public Health Care Administration, which took responsibility for the intervention during its pilot phase and committed to mainstreaming it as part of its health system on a sustainable basis. They also promoted ownership by the other key local stakeholders, including other Government departments such as the Centre for Preventive Medicine, the Chief Dietician and City Hospital No. 33, called the ''New Hospital''.

This project was run as a pilot project with the aim of developing social marketing tools and demonstrating their effectiveness in order for them to be replicated in similar socio-economic settings. It also sought to provide a public–private partnership framework in the field of cardiovascular disease to serve as a reference for replication. When considering replication, it is important to ensure that certain key factors of success are in place as they were in this project; notably the commitment of the public healthcare authorities, a strong local media and the existence of an active community of medical professionals. Another lesson learnt was the difficulty of dealing with a multitude of risk factors together. As indicated in the results section of this article, while there was a significant increase in level of knowledge about hypertension and its relationship to heart health, this cannot be said of other risk factors. These elements will be taken into account while documenting this project in the form of a case study to be disseminated throughout the membership network of the World Heart Federation (195 national and regional organizations).

## References


[1] World Health Organization, Preventing chronic disease, a vital investment, 2005.

[2] World Health Organization. NCD infobase (2001 figures). Now WHO Global Infobase. <http://www.who.int/ncd_surveillance/infobase/en/index.html> [accessed 16.12.2006].

[3] World Health Organization Regional Office for Europe. Highlights on health in the Russian Federation. Copenhagen, 1999.

[4] World Health Organization. NCD Infobase Central Statistical Office, survey population: Moscow.

[5] Ekaterinburg Travel. <www.ekaterinburg.tv> [accessed 16.12.2006].

[6] Gross rating points (GRPs) measure the total volume of delivery of a message to the target audience. It is equal to the percent each to the target audience times the frequency of exposure.

[7] World Health Organization Regional Office for Europe. CINDI Health Monitor: a study of feasibility of a health behaviour monitoring survey across CINDI countries: Data book. Annex 3: Methodology for a health behaviour survey. Copenhagen, 2003. <www.euro.who.int/CINDI> [accessed 16.12.2006].

[8] National Public Health Institute (KTL), Finland. FINBALT Health monitor, 40 questions. Helsinki, 2003.

[9] Hox J, De Leeuw ED. A comparison of non response in mail, telephone and face to face surveys. Qual Quant 1994;28:4329–44.

[10] Stanford University. Social science researcher proposes overhaul of survey methodology. News Release. September 27, 2006.

[11] Schartz R, Smith C, Speers MA, Dusenbur LJ, Bright F, Hedlund S, et al. Capacity building and resource needs of state health agencies to implement community-based cardiovascular disease programs. J Public Health Policy 1993;14:480–93.

[12] Bratch N, Finnegan JR, Rissel C, Weisbrod R, Gleason J, Corbett J, et al. Community ownership and program continuation following a health demonstration project. Health Educ Res 1994;9:243–55.

[13] Swerissen H, Crisp B. The sustainability of health promotion interventions for different levels of social organization. Health Promot Int 2004;19:1123–30.

[14] Puska P et al. The North Karelia project. Helsinki: National Public Health Institute (KTL); 1995.


Available online at www.sciencedirect.com
ScienceDirect