Health in All Policies – How was it achieved in Finland?

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Finland
Population: 5.3 million
Area: 330000 Sqkm
Independent since 1917
Nordic democratic country and "Welfare state"
Member of EU and Euro group, but not in NATO
Used to be one of the poorest countries of Europe
Rapid economic growth – and social change – since World War II.
Short history of Finnish health/1

• Child mortality
  – One of the highest in Europe in 1930s. Marked reduction in 1940 and 50s. Now one of the lowest in the world.
    • Universal maternal and child health care
    • High immunization coverage
    • Social and financial support for mothers, children and families

• Infectious diseases
  – Tuberculosis a major problem until the late 1960s. Drastic reduction but now slightly increasing due to immigration from areas with multiresistant stems.
    • Systematic screening and free/compulsory treatment
    • Social and economic development
"Maternal pack"
Distributed to poor mothers since 1937 and to all families with new-born babies since 1949
Short history of Finnish health/2

• Traffic safety
  – In the top year, 1970, 1150 traffic deaths (700,000 cars), in 2012, 254 deaths (over 3 million cars)
    • Multi-sectoral action and targets: speed limits, control of drunk driving, mandatory use of seatbelts, road planning and construction, technical improvement of cars, emergency care, education of drivers and other road users…

• Mental health
  – Suicides a major problem. Marked decrease in the last 10 year, but still higher level than in many other European countries.
    • National suicide prevention program
Short history of Finnish health/3

- Cardiovascular diseases and other non-communicable diseases
  - Due to increase of standard of living and change of lifestyles, CVD mortality started to increase after the war
    - In the late 1960s, CVD mortality in Finland was highest in the world
    - Increase of life expectancy nearly stopped
    - Mortality was particularly high among working-age men in eastern Finland
  - Major risk factors for CVD – smoking, high blood pressure and high serum cholesterol - were already known in the late 1950s – and actually relatively little has changed since then!
    - The Seven Countries Study – one of the classical CVD studies revealed that:
      - Smoking was very common among men, blood pressure was high and blood cholesterol levels were extremely high. Work was physically hard and obesity was rare.
CHD mortality among working age men and women in 25 countries in the late 60s

Source: Thom et al. 1992
Serum cholesterol distribution in Finland and Japan in 1970’s
From Research to Action: The North Karelia Project
North Karelia Project
Starting points

• Extremely high CVD mortality, particularly among working age men
  – Statistics, experience of doctors and health workers, most families affected

• In the 1960s North Karelia was relatively poor area
  – Agriculture, small farms, mainly dairy production
  – Forestry, paper industry, hard physical work
  – Active civil society: “Marta” (women organization), sport clubs, workers unions…

• Petition by the local people and political leaders
  – Delegation to Helsinki
  – We need help, do something…

• Community-based prevention
  – A new approach
  – Launching the project in 1972
Due to the chronic nature of CVD, the potential for the control of the problem lies in primary prevention.

The risk factors were chosen on the basis of best available knowledge:
- previous studies
- collective international recommendations
- epidemiological situation in North Karelia

Chosen risk factors:
- smoking
- elevated serum cholesterol (diet)
- elevated blood pressure
Main and Intermediate objectives

- **Main objective**
  - To reduce morbidity and mortality due to cardiovascular disease
  - Later on extended to other NCDs

- **Intermediate objective**
  - To reduce the levels of three major risk factors among the whole population: smoking, serum cholesterol level and blood pressure
  - Obesity and physical activity become issues later

- **Questions**
  - Did the risk factors change?
  - Did the morbidity and mortality reduce?
  - Could the risk factor change explain the morbidity and mortality change
Main Principles of the North Karelia Project

- Prevention is the only sustainable public health approach
- Risk factors identified by prospective studies, closely linked with certain behaviours - deeply enrooted in the community
- Community based preventive programme
  1. Target: the community (not individuals)
  2. Intervention: through community structures (not external intervention)
- Emphasis on community organization, general community changes
Population-based and high risk strategies

- People with low risk factor level: 5%
- People with average risk factor level: 70%
- People with clinically high risk factor level: 25%

Distribution of people according to risk factor level:

Individual risk of CHD
Main Components of the North Karelia Project

1. Media activities
   - General campaigns
   - Substance, age-group, setting targeted campaigns

2. Health service activities
   - Especially primary health care
   - Risk assessment and lifestyle education
   - Screening, early detection, treatment, rehabilitation

3. Community organization activities
   - Different community organizations: workers union, women’s organization (“Marta”), sport clubs, professional societies, patient organizations (Heart Association, Diabetes Association)
   - Role of lay leaders

4. Environmental and policy activities
   - Government: legislation, standards, recommendations
   - Private sector: development and promoting healthy products
Community activities of the North Karelia Project

1. Smoking
   - Smoke free settings
   - “Non-smoking generation”
   - Smoking cessation competitions “Quit and win”
   - Smoke free sport events/sport clubs

2. Nutrition: cholesterol lowering
   - Development and promoting healthy eating: “Marta” association
   - Berry project – use of local berries
   - Collaboration with local industries and trade
   - Food labelling: special symbol

3. Hypertension prevention and control
   - Salt reductions and healthy eating
   - Physical activity and weight control
   - Screening and early detection: everybody should know his/her blood pressure
   - Treatment: non-pharmacological and pharmacological
From North Karelia to National Action

- Health services: orientation towards primary prevention, secondary prevention
- North Karelia Project, other demonstration programmes
- Health Promotion Programs: ministries, health care system, NGO’s, media, etc. – nutrition, diabetes, women’s heart health...
- Settings: schools, work places
- Industry, trade, marketing: business and private sector collaboration
- Policy decisions, inter-sectoral collaboration, legislation: HiAP (Health in All Policies) – Finland EU presidency 2006
- Monitoring system: health behaviors, risk factors, nutrition – since 1972 every five years
- Research: medical, public health, nutrition, social sciences..
- International collaboration: WHO, EU, public health and research community
Change of risk factors: 40-year trends

In the 1960s and 70s in (eastern) Finland

- **Smoking**
  - About 60% of men were smokers, among women smoking was quite rare

- **Serum cholesterol**
  - Mean blood cholesterol level extremely high, about 7mmol/l.
  - High consumption of saturated fats, mainly from diary products (fatty milk and butter)

- **Blood pressure**
  - Average level high, malignant hypertension also fairly common
  - High salt intake, obesity was quite rare
  - No systematic screening of treatment
Smoking prevalence in Finland 1960-2012 and tobacco control actions

- 1960: Report of the Tobacco Committee
- 1970: Petitionary motion
- 1976: Tobacco Act
- 1980: The North Karelia project launched
- 1990: Restrictions on smoking in workplaces
- 2000: Ban on restaurant smoking
- 2010: Tobacco Act
ANTISMOKING LEGISLATION IN FINLAND:

The first tobacco legislation in 1977

- Prohibition of all forms of advertising
- Restrictions in smoking in public places
- Health warnings
- 1/2% level of tobacco tax for antismoking activities
- Prohibition of sale to under 16 years old


- Prohibition of smoking in worksites
- Restaurant, bar smoking policy: stepwise process, completely smoke free since 2007
- Sales to persons under 18 years of age prohibited

Target: Tobacco free Finland in 2040

- Under discussion: plain packaging, e-cigarettes, prohibition of smoking in balconies and cars with children
Smoking
(men 30-59)

North Karelia
Kuopio province
Southwest Finland
Helsinki area
Oulu province

% 60
50
40
30
20
10
0


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Smoking
(women 30-59)
Serum cholesterol (men 30-59)

mmol/L

North Karelia
Kuopio province
Southwest Finland
Helsinki area
Oulu province


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Serum cholesterol
(women 30-59)
Use of butter on bread
(men age 30-59)
Use of butter for cooking
(men 30-59)
Use of vegetable oil for cooking
(men age 30-59)
Fat intake (men 25-64)

Recommendations

- Total fat (25-35 EN%)
- SAFA (~10 EN%)
- MUFA (10-15 EN%)
- PUFA (5-10 EN%)
Dietary cholesterol intake (mg)

- Men
  - 1982: 525 mg
  - 1992: 374 mg
  - 1997: 305 mg
  - 2002: 235 mg
  - 2007: 188 mg
  - 2012: 210 mg

- Women
  - 1982: 340 mg
  - 1992: 275 mg
  - 1997: 296 mg
  - 2002: 256 mg
  - 2007: 176 mg
  - 2012: 210 mg
Fruits And Vegetables – Supermarkets
Examples of intersectoral work

Find a symbol of your life

• Goal: to help consumers make better choices regarding the quality and quantity of fat and the quantity of sodium

• Managed by the Finnish Heart and Diabetes associations

• ~ 900 products
Examples of intersectoral work.

Development of Finnish Rapeseed oil

Change in fat content of Finnish cow milk

Fen: \( y = -0.16x + 362 \)

Gen: \( y = -0.16x + 358 \)
Cholesterol distribution in North Karelia in 1972 and 2007, men
Estimated effects on serum cholesterol

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<th>Year</th>
<th>Medication effect</th>
<th>Dietary effect</th>
<th>Medication+dietary effect</th>
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<td>-0.6</td>
<td>-0.4</td>
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<tr>
<td>1992</td>
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Systolic blood pressure
(women 30-59)
Diastolic blood pressure (women 30-59)
Salt intake (grams) in dietary survey

- **Men**
  - 1992: 12
  - 1997: 10.5
  - 2002: 9.9
  - 2007: 8.4
  - 2012: 8.9

- **Women**
  - 1992: 8
  - 1997: 7.2
  - 2002: 6.8
  - 2007: 6.1
  - 2012: 6.5

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Examples of intersectoral work.

**Biscuit example:**
- Leading Finnish biscuit manufacturer (LU Finland Ltd) has removed some 80,000 kg of SAFA by changing the fats used
- All trans fats removed and major transfer to rapeseed oil

**Meat product example:**
HK (Leading Finnish meat company) since 2007 annually:
- 60,000 kg less salt
- 100,000 kg less saturated fat in their products (will be increased to 500,000 kg due to change in pig feeding)
BMI by education, women 25-64 years

kg/m²

1997 2002 2007

Highest
Medium
Lowest

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Why did diet change?

- North Karelia Project (community based CVD prevention program)
- Consensus in the medical community
- Political consensus
- Recommendations
- Cholesterol screening
- Fat debates
- Educational programs
- Business got interested
Trends in health outcomes

• Risk factors were reduced markedly, but what happened for health?
• Did CVD mortality reduce
  – And what proportion of the change was explained by the risk factor change?
• What happened for other NCDs?
• Life expectancy?
• Self-assessed perceived health?
Age-adjusted CHD mortality among men 35-64 years in North Karelia and in the whole Finland from 1969 to 2011

- North Karelia: -84%
- Whole Finland: -82%
Observed and predicted decline in CHD mortality in men
Common Risk Factors

• TOBACCO USE
• UNHEALTHY DIET
• PHYSICAL INACTIVITY
• ALCOHOL

- CVD
- DIABETES
- CANCER
- COPD
- MUSCULOSCELETAL
- ORAL HEALTH

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Age adjusted mortality rate of lung cancer in North Karelia and in all Finland in male population aged 35-64 years in 1969-1995

Mortality/100 000

-2.0(-5.2; +2.2)%/year
-1.9(-2.9; -0.9)%/year
-7.3(-9.4; 5.2)%/year
-4.8(5.4; -4.2)%/year

Year

All Finland North Karelia

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Life expectancy at birth in Finland in 1941–2004

Source: Statistics Finland.
www.ktl.fi/hif
Subjective health: percent stating their health as good or very good (men 30-59)
Figure 1  Environmental factors that have been linked to human behaviours and established risk factors that cause cardiovascular diseases

Chow et Int J Epidemiol 2009;38:1580

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North Karelia/Finland experience
Complex change process with time

- Health programme
- Policies
- Population
- Private sector (and NGOs)
Summary

• To control chronic non-communicable diseases, prevention is the only sustainable way
  – Reduction of risk factors in the whole population
    • Environmental change – make the healthy choice an easy one!
    – Additional but smaller gain through secondary prevention and treatment of diseases
• Most of the needed action are outside of the mandate of health sector
  – Intersectoral collaboration is necessary
  – Government (HiAP), private sector, civil society/NGOs
• Behavioral change is a complicated social process
  – Education-knowledge-attitudes-behavior-public opinion/advocacy-legislation/regulation/taxation-environmental change-further behavioral change….international convention (FCTC)-improvement in legislation….etc
  – Conflicting interests
  – Global big business
  – Social media
Thank you!