

The Finnmark Intervention Study

Design, methods and effects of a 2 year community-based intervention

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Two fishing municipalities with a total population of 6,500 in Finnmark county were exposed to different health intervention programmes, both aiming at minimizing inequalities in health through empowerment and community involvement. One intervention (Nordkapp) was mainly focused on factors related to the working environment of fishermen and within the fishing industry, while the other (Båtsfjord) addressed the population as a whole in defining health problems, setting priorities and planning strategies and implementation. This paper describes the design and methods of intervention and evaluation and examines effects regarding knowledge about and discussions of the projects, acquisition of new information, attitudes and self-reported behaviour changes after 2 years of intervention in a randomized sample of almost 2,000 individuals in the 2 communities. In Nordkapp, 27% of the men and 20% of the women knew about the project, with the highest level being among fishermen and the male employees in the fishing industry. The corresponding percentages for Båtsfjord were 77 and 82%. Approximately 1 in 5 in Nordkapp and 2 in 5 in Båtsfjord had discussed the projects with somebody. In particular, in Båtsfjord knowledge about and discussion of the projects increased with the length of formal education, whereas acquisition of new information and self-reported behaviour change was highest among those with the lowest level of education in both communities. Approximately 40% of those aware reported behaviour change due to the interventions. These findings suggest that the projects have favoured the target groups of the intervention.

Key words: community-based, health intervention, empowerment, social class, equalization, health behaviour

Health status is directly affected by personal health-related behaviours, but health is also affected, directly and indirectly, by environmental conditions. Therefore, traditional health education activities, with their focus solely on the individual, have had limited impact.^{1,2} In addition, this approach seems to benefit the more educated part of the population the most³, thus widening the gap between different socio-economic groups.^{4,5} Many authors have also criticized traditional health education for 'blaming the victim'.⁶ Tones et al.² consider the individual focus of health education as both unethical and ineffective in that it ignores the real socio-political roots of ill health.

To overcome some of these critics other approaches to achieving better health and social welfare have been introduced during the last 2 decades, based on concepts such as involvement and participation⁷⁻¹⁰ and political agreements emphasizing multisectorial cooperation, supportive environments and community action.^{11,12}

Some of these ideas and concepts have, together with different theories of behaviour change¹³⁻¹⁶, been incorporated into practical community-based interventions.¹⁷⁻²⁵ Although most of these projects have embodied an involvement strategy, very few have focused on and reported an equalization effect in terms of health behaviour between different social groups. Equity in health was

particularly emphasized in WHO's Adelaide recommendations.²⁶

This notion of inequity in health between different socio-economic groups was the point of departure for 2 different approaches to health promotion initiated in 2 municipalities in the north of Norway. Through active involvement of the target groups, the approaches were supposed to facilitate choices not merely by providing understanding, value clarification and practice in decision-making, but also by attempting to empower the individual.²

The goals of the projects were

- to empower the public to make individual and environmental health-promoting changes;
- to improve health by bettering the health situation for the least privileged groups, identified as manual workers within the fisheries and the fishing industry.

The interventions were initiated in 1988 in 2 fishing municipalities in Finnmark, the northernmost county in Norway, located more than 780 km above the Arctic Circle (*figure 1*). One approach, in Nordkapp, focused mainly on changes in the working environment which were supposed to influence health directly and health behaviour indirectly. The other approach in Båtsfjord was based on health promotion through involving the population in setting priorities, making decisions, planning strategies and implementing them to achieve health.

The purpose of this paper is to describe the design, methods and effects of the 2 interventions on knowledge of and discussion about the projects, attitudes, new information gained and self-reported behaviour changes in the

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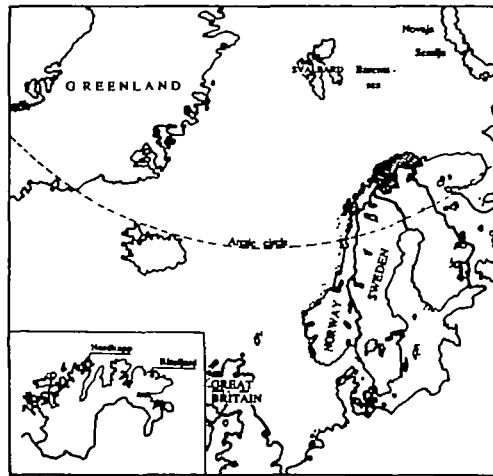


Figure 1 The Finnmark Intervention Study: location of the intervention municipalities

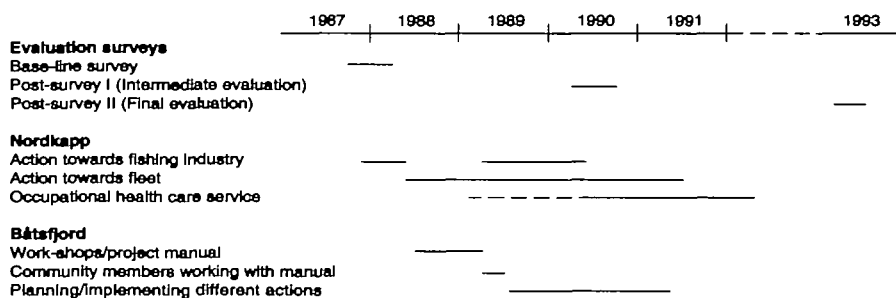


Figure 2 The Finnmark Intervention Study: evaluation design and programme development

target groups and in the population at large. The results in this paper are from an intermediate survey in 1990 carried out over 2 years after the beginning of the projects. The study design is shown in figure 2. The interventions will continue for another year and are evaluated finally in 1993.

MATERIALS AND METHODS

The intervention municipalities Båtsfjord (~ 2,500 inhabitants) and Nordkapp (~ 4,000 inhabitants) and the

3 control municipalities Loppa, Gamvik and Måsøy (altogether 5,000 inhabitants), are located along the coast of Finnmark (figure 1). The intervention municipalities were chosen based on local initiative, not random sampling, producing a quasi-experimental design for the study. The selection of control municipalities was based on the following demographic characteristics: age distribution, ethnic background, migration rate and percentage employed in fishing industry and as fishermen.

Interventions

Table 1 shows the target groups, the issues focused on, the characteristics of the 2 approaches and the main risk-factor and health status end-points measured.

In Nordkapp the target group was restricted to fishermen and workers in the fishing industry. The main objectives were to reduce working accidents, reduce sick-leave in the fishing industry, reduce smoking, serum cholesterol and MI-risk score and to increase general well-being. In addition,

the project should develop and run courses regarding safety procedures for fishermen and courses in the working environment for leaders of the fishing industry, in order to establish permanent health care services relevant to the actual target groups and with particular focus on occupational conditions.

The project manager in collaboration with the public health officer focused initially on ergonomic aspects and safety conditions related to the production of fillet and the catching and transportation of fish. Based on assessments of the working environment in the factories and fishing boats, owners were advised on various choices for improvements. Furthermore, nutritional and other lifestyle matters, particularly eating habits during intense fishing periods, were examined. The project manager initiated the production of warm drink machines which are particularly appropriate

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Table 1 The Finnmark Intervention Study: target groups, interventional issues, methods and end-points in the 2 intervention municipalities

Target group	Issue	Method	Physiological measures	Illness, health	Behavioural measures
Nordkapp					
Fishermen, workers in fishing industry	Working conditions (physical, psycho-social)	Visiting target groups at worksite	MI-risk ^a	Depression	Smoking
	Accidents	Mixed top-down/bottom-up	Cholesterol	Loneliness	Fat consumption
	Food habits		Blood pressure	Well-being	Coffee (boiled)
Båtsfjord					
The whole population Fishermen, workers in fishing industry	Physical activities	Bottom-up: 'project manual strategy' to rank problems/activities	Heart rate	Self-rated health	Alcohol
	Food habits		Triglycerides	Coping	Physical activity
	Social network			Symptoms	Participation/involvement
	Well-being				Awareness
	Accidents				
	Work opportunities				

^a MI-risk: myocardial infarction-risk

for fishing boats, allowing the fishermen to have warm soup of high nutritional value, instead of boiled coffee when working at sea.

The media played a modest part in this project, even though the newspapers covered the initial stage and published some articles on the working environment, training courses and the model cabin used for 'baiting hooks' which was constructed to illustrate a possible model working environment relevant to fishermen.

The intervention in Båtsfjord was aimed at influencing the whole population to be more health conscious, mobilizing the inhabitants to participate in health-promoting activities and making people aware of the structural factors which influence health. The project invited different types of public and voluntary organizations, industry leaders and leaders in the municipality administration to a workshop to identify health problems, barriers to good health and possible improvements in promoting health. Based on this, 2 groups were selected to construct the 'project manual', i.e. an instrument used to increase involvement.²⁷ The manual was distributed to all schools, many homes, work-places, voluntary organizations, etc. Approximately 200 individuals were involved in the formulation of objectives and health-promoting strategies regarding nutrition, smoking, alcohol, physical activity, accidents, the supply of professionals, social network/well-being/quality of life and ideas on how to create new jobs. A second project manual with all the suggestions listed in terms of short- and long-term measures was discussed in meetings with the same groups which were invited to the workshop.

The responsibility for many of the suggested short-term activities was delegated to participating groups and organizations, e.g. a mutual employee's athletic organization, nutrition courses for Tamil refugees and fitness activities for pensioners and children. The proposed long-term measures regarding, for example, road safety, job making, strengthening of the social network and improving general well-being, were incorporated in the new municipality plan prepared by the mayor's administration.

Once a week the public health officer taught primary school pupils, focusing on 'living together', nutrition, alcohol, drugs and smoking.

In 1990 the project arranged a so-called 'health and well-being-day', where clubs and organizations presented their activities and products, an event visited by more than 600 persons. The media played an important role in this project. Both local newspapers and radio reported on various activities and events.

Baseline survey

The third Finnmark Heart Study (1987–1988) consisting of a health screening and

3 questionnaires was employed as baseline for the evaluation of the interventions. The material and methods, the course of action and procedures of this study has been presented previously.^{28–30}

In the 2 intervention and 3 control municipalities a random sample of 2,887 individuals aged 20–62 years, representing 77.3% of the invited population, attended the screening (table 2). The lowest attendance rate appeared in unmarried young men (20–29 years) and in those invited in Båtsfjord. More details about the response and attendance rates are presented elsewhere.^{28–31}

Post-survey 1: the intermediate evaluation

An equivalent study to Finnmark III was carried out in the 2 intervention and 3 control municipalities in 1990 (Finnmark IV). All residents aged 40–65 years were included in the study in addition to all residents aged 23–39 years who had been invited to the baseline screening in 1987–1988 and a 30% random sample of individuals aged 20–39 years not invited to Finnmark III. In the 5 municipalities a total of 3,473 individuals, representing 74.2% of the invited population, attended the intermediate survey (table 2). The lowest attendance rate appeared among the same groups as in 1987–1988.

The survey with clinical measurements and 2 questionnaires replicated the baseline survey. The first questionnaire was identical to the first questionnaire in the baseline survey and was handed in by the attenders at the screening session. The second questionnaire was completed at home and returned by mail. One reminder was distributed to the non-responders.

Among those who attended the screening, 80.7% of the men and 82.9% of the women filled in both the questionnaires. There were minor differences in the response rates between different groups with regard to age, marital status and intervention/control municipalities.

In addition to many questions repeated from the baseline survey, the second questionnaire also asked the population in the 2 intervention municipalities some questions about awareness, involvement and self-reported behaviour changes and the results are shown in table 3. This paper presents the responses to these questions from the individuals in the 2 intervention municipalities.

Table 2 The Finnmark Intervention Study: number of invited individuals and attendance rate in the baseline survey (1987–1988), post-survey 1 (1990) and in both studies

	Nordkapp		Båtsfjord		Controls		
	Men	Women	Men	Women	Men	Women	Total
Baseline survey							
Invited (n)	728	571	404	345	920	767	3735
Attended (%)	72.8	86.0	70.0	75.1	73.9	84.0	77.3
Post-survey 1							
Invited (n)	899	734	554	453	1114	928	4682
Attended (%)	76.1	83.5	61.4	68.4	69.8	80.6	74.2
Both surveys							
Invited (n)	639	512	353	299	813	698	3314
Attended (%) ^a	70.9	83.8	55.2	62.9	65.8	78.9	70.9

^a Among individuals invited to both surveys

Process evaluation

A process evaluation was carried out to study the interaction between outside experts and inside community members. Data stems from documents, records and diaries from the projects and participant observation within certain phases of the projects. In addition, in-depth interviews were carried out with a limited number of inhabitants within each community.

Statistical analyses

SPSSx was used in all the calculations and the table analyses were tested with the Mantel-Haenszel chi-squared test. A stepwise multiple regression analysis of self-reported behaviour changes (scaled 1-4) was performed, employing age, sex, educational attainment, knowledge about the projects, attitudes, discussion, new information gained and community as the independent variables. Another analysis was performed stratified on community with the same independent variables.

In Nordkapp, more than 80% of those answering gave positive statements regarding the value of the project. Among fishermen and fishery workers who knew about the project almost all had a positive attitude. In Båtsfjord, 85% of the men and 92% of the women answered in the affirmative to the same statement. Also in Båtsfjord, workers in the fishing industry were among the most positive.

In Nordkapp 70% of the men and 66% of the women aware of the project reported to have gained new and useful information (table 5). The corresponding percentages in Båtsfjord were 56 and 59%. In both municipalities the highest percentages were found among those with the

Table 3 The Finnmark Intervention Study: description of variables employed in the present analyses

Indicators of interventional effects

Knowledge about 'Do you know of the health-project?' (0,1)

New information: 'The project gave me new and useful information' (totally disagree, somewhat disagree, somewhat agree and totally agree, 1-4; dichotomized into agree=1, disagree=0 except for the regression analyses)

Attitude: 'The health project is a very positive enterprise' (categories as for 'new information', 1-4; dichotomized into agree=1, disagree=0 except for the regression analyses)

Discussion: 'Have you discussed the project with family/friends and/or with project leaders/health personnel' (0-1)

Behaviour change: 'The project has made me change one or more health habits' (categories as for 'new information', 1-4; dichotomized into agree=1, disagree=0 except for the regression analyses)

Socio-demographic characteristics/target groups

Age (in years), either ungrouped (employed in the regression analysis) or grouped: 20-39, 40-49, 50-65 years

Gender (male=1, female=2)

Educational attainment: years of schooling either ungrouped (employed in the regression analyses) or grouped: <8, 8-10, >10 years

Fishermen (0,1)

Fishing industry (0,1)

RESULTS

In Båtsfjord 77% of the men and 82% of the women stated that they knew about the intervention 2 years after the official start (table 4). The corresponding percentages in Nordkapp were 27 and 20%. In the latter municipality, the highest proportion knowing about the project appeared in the 2 main target groups, i.e. fishermen and male employees in the fishing industry. In both communities the higher educational groups and the middle aged (40-49 years) had the highest rate of knowledge about the projects.

More than 2 out of 5 of the respondents in Båtsfjord and more than 1 in 5 in Nordkapp had discussed the project with family/friends or with project leaders/health personnel (table 4). Furthermore, in both communities the figures showed a higher rate of discussion among persons with higher educational attainment.

Table 4 The Finnmark Intervention Study: positive statements concerning knowledge about and discussion of the health project with family/friends. Gender specific distribution (%) in the communities involved according to age, particular target groups and educational attainment

	Nordkapp				Båtsfjord			
	Knowledge about		Discussed the project		Knowledge about		Discussed the project	
	M n=514 %	F n=451 %	M n=371 %	F n=305 %	M n=263 %	F n=245 %	M n=228 %	F n=209 %
All	27	20	24	18	77	82	36	46
Age (years)								
20-39	22	16	18	12	75	86 ^a	31 ^a	43
40-49	31	23	29	20	85	90 ^a	57 ^a	53
50-65	26	20	22	21	73	72 ^a	29 ^a	41
Target groups								
Fishermen	38 ^a	-	34	-	67	-	24	-
Fishing industry	37 ^a	11	32	12	76	83	31	35
Others	23 ^a	21	20	19	80	83	39	48
Education (years)								
<8	26	14 ^a	24	15	69 ^a	60 ^a	30 ^a	31 ^a
8-10	27	19 ^a	22	17	76 ^a	85 ^a	31 ^a	47 ^a
>10	29	28 ^a	25	22	88 ^a	97 ^a	49 ^a	54 ^a

a Statistically significant $p \leq 0.05$ (Mantel-Haenszel χ^2 test)
n varies due to differing missing rates

lowest educational attainment and among individuals 50–65 years of age. Fifty-seven per cent of all fishery workers in Nordkapp and 80% of those fishery workers who knew about the project reported receiving new information.

Discussion and acquisition of new information among those who knew about the projects in general reached a higher level in Nordkapp compared to Båtsfjord.

The percentages answering in the affirmative to the statement 'Have changed one or more health-related behaviours due to the project' are shown in table 5. In both municipalities the figures reveal a higher proportion reporting behaviour change in the lower educational groups and among older compared to younger individuals.

Regression analysis with self-reported behavioural changes as the dependent variable and age, education, sex, knowledge about the project, discussion, attitude, new information gained and

intervention community as independent variables, gave 3 statistically significant factors ($p < 0.05$). New information gained, low educational attainment and the community of Båtsfjord were the most important factors explaining self-reported behaviour changes (results not shown).

Table 6 shows the results of a multiple regression analysis of behaviour change with the same independent variables for the 2 communities separately. Only new information was statistically significant in both communities. In addition, age was positively associated with change in Båtsfjord, while the reverse association appeared regarding years of education in Nordkapp.

The questionnaire received by the Båtsfjord residents comprised some additional questions about awareness and participation in particular interventional activities. Every third person stated that they were aware of the particular 'project manual', varying from 15% among the fishermen to 60% in higher educational groups. The same kind of variation by educational attainment was seen regarding the level of participation in interven-

tional activities such as workshops, meetings concerning the project manual, etc. Eleven and 18% of men and women respectively reported to have participated in such activities. Finally, 43% of the men and 52% of the women reported having had their cholesterol level tested (arranged during a limited time period as part of a national campaign in 1989). Older women showed the highest test rate (59%), whereas fishermen appeared to have the lowest (29%).

DISCUSSION

Our findings on knowledge about the campaign reflects the different approaches of the interventions, with a marked lower overall rate of awareness in the municipality restricting the intervention to particular community groups, i.e. fishermen and those employed in the fishing

Table 5 The Finnmark Intervention Study: per cent stating that the health project gave them new and useful information and that the project made them change health related behaviour. Gender specific distribution (%) among those aware of the project in the communities involved according to age, particular target groups and educational attainment

	Nordkapp				Båtsfjord			
	New information		Behaviour change		New information		Behaviour change	
	M n=120 %	F n=79 %	M n=116 %	F n=79 %	M n=201 %	F n=174 %	M n=195 %	F n=175 %
All	70	66	41	37	56	59	42	43
Age (years)								
20–39	64	53	29	18 ^a	51	53	32	29 ^a
40–49	69	65	40	30 ^a	54	59	41	39 ^a
50–65	74	75	47	57 ^a	63	67	51	65 ^a
Target groups								
Fishermen	66	–	35	–	64	–	47	–
Fishing industry	80	–	54	–	49	50	46	42
Others	70	65	41	36	57	61	39	44
Education (years)								
<8	74	82	40	64 ^a	60	69	44	66 ^a
8–10	65	66	47	43 ^a	56	63	48	43 ^a
>10	73	62	33	26 ^a	54	51	32	34 ^a

a Statistically significant $p < 0.05$ (Mantel-Haenszel χ^2 test)
n varies due to differing missing rates

Table 6 The Finnmark Intervention Study: results of multiple regression analysis of self-reported behaviour changes (1=low, 4=high) in Nordkapp (n=314) and Båtsfjord (n=313)

	Nordkapp			Båtsfjord		
	Reg coef ^a	t	p	Reg coef	t	p
New information (1=low, 4=high)	0.645	13.90	**	0.595	10.91	**
Education (years)	–0.035	–2.70	*	–0.022	–1.15	
Age (years)	0.004	1.03		0.008	1.61	
Gender (1=male, 2=female)	–0.073	–0.88		0.010	0.10	
Knowledge about the project (0, 1)	–0.093	–0.83		–0.212	–1.18	
Attitudes (1=low, 4=high)	0.037	0.79		0.106	1.56	
Discussion (1=low, 4=high)	–0.037	–0.47		0.042	0.61	

a Reg coef: regression coefficient
* $p < 0.01$, ** $p < 0.001$

industry in Nordkapp. In both municipalities the highest level of knowledge of and discussion about the projects appeared among higher educational groups, while the reverse relationship appeared regarding new information gained and self-reported behaviour changes. In Nordkapp, the level of education was an independent predictor of behavioural change after adjustment for other explanatory factors. Those with few years of education changed the most.

The significance of self-reported changes might be difficult to interpret. In the present study responders were asked to report changes they associated with intervention activities. This method of evaluation is open to recall bias ('eager to please') and other kinds of bias³² and the measure might also contain both intentions to change and changes that would have occurred anyway. Regarding the comparison between Nordkapp and Båtsfjord, however, and the association between the variables, this problem should be of minor importance.

Self-reported behavioural change should not be the only end-point measurement in evaluating a community-based intervention. We decided, in this intermediate evaluation, also to measure 4 other stages in the process of behavioural change, namely knowledge of and discussion about the projects, new information gained and attitude towards the projects. Although several studies have shown that the simple information-processing model³³ is ineffective in practical terms, awareness, new information gained, attitude and interpersonal communication are also associated with behaviour changes in more complex 2- and multistep models of communication.

A source of bias that could possibly have altered the reported results stems from non-attendance and non-response. Thorough drop-out analyses have been carried out in previous studies in the same region²⁸ and for this survey.³¹ Most of the differences between responders and non-responders were relatively minor in magnitude. The same pattern of non-attendance and non-response was found in the 2 project municipalities.³¹ Moreover, a previous study including parts of the present baseline survey material reported results that indicated this kind of bias to have no important impact on estimates of parameters.^{28,30}

It is difficult to compare the effect of different campaigns due to differences in intensity, length, media channels, target groups, ways of asking questions, etc. Ninety-five per cent of the Norwegian population was aware of an intensive mass media-based 'Heart for Life' campaign in 1987³⁴ and more than 85% were aware of the Minnesota Heart Health Project after 2 years.³⁵ Despite the more limited dimension of the intervention in Båtsfjord, the figures on awareness seem to correspond with results from these comprehensive large-scale projects which had a lot more disposable economic resources. From the CHIP project, Norman et al.²³ report the levels of awareness to be 74 and 79% for men and women respectively after 2 years of intervention and that study found, as did we, that knowledge about the project increased with increasing level of education.

The modest result regarding awareness in Nordkapp depends on the limitation of the intervention to fishermen and fishery workers and the fact that the interventions took place in a period of increasing economic depression in Finnmark, due to the breakdown in the fishing resources of the Barents Sea. The overall crisis apparently affected the intervention activities in Nordkapp most heavily, which were based mainly on contact with fishermen and employees in the fishing industry at the work site. These dramatic changes put severe restrictions on the possibility of initiating close cooperation with fishermen in Nordkapp, which is probably the reason why a higher proportion of workers in the fisheries compared to fishermen in Nordkapp reported to have gained new information and changed their health-related behaviour. Thus, the time span between the start of the intervention and the intermediate evaluation might be too short to measure effects regarding the selected indicators in the target groups in Nordkapp.

When it comes to the variables 'discussing the project' and 'new information gained' once aware of the projects, the approach in Nordkapp seems to be the most successful. The process evaluation indicates that the difference in penetrating power of the intervention among those who knew about the projects could be explained by the way people in different social groups learn. Manual workers with only a few years of education mainly learn through practical experiences and personal, verbal communication. One expression, repeated by some of the interviewed inhabitants, illustrates the distance between the traditional school-based society and the primary industry coast society in Finnmark: 'Fishermen don't sit down to read reports'. In this fishery-based society, knowledge has been passed down from one generation to the next through participating in the fellowship of working, without written instructions. Problems relevant for the working conditions of this target group might thus be most effectively attended to by taking into account the special way of verbal and practical dissemination of knowledge which characterizes these societies. In Nordkapp, the project manager personally identified all the workers in the fishing industry and many fishermen. Through this activity he created practice-based cooperation with the target groups and thus made possible learning situations which generated solutions to practical problems.¹⁰ The intervention in Båtsfjord was, in contrast to Nordkapp, mainly based on written information, e.g. the project manual, and competence in use of such information was required. Also, the participants in the Båtsfjord project had to organize small project groups where all the discussions and planning took place. In Båtsfjord, the highest rate of discussion was, not surprisingly, observed among the higher educated groups. In Nordkapp the lower educated groups changed the most and educational level was a statistically significant predictor of behaviour change when adjusted for other variables. Focusing practical problems in the working environment of specific target groups through co-generative problem solving could seem more effective than trying to mobilize the population at a

more general level. The Nordkapp approach probably also minimalizes the medicalization and 'victim-blaming' effects of health promotion.

Community-based interventions rarely result in measurable long-term behaviour changes.^{36,37} One problem is that such programmes are often established when changes are already in progress in the population. The groups easy to reach, innovators and early adopters, do change their behaviour at an early stage.³⁸ This phenomenon could be the reason for our findings that the highest level of new information gained and self-reported behaviour changes were found among those with the lowest educational attainment.

Short-term effects on behaviour have, however, been reported from other community-based interventions.^{39,40} The fact that approximately one-third of the respondents in our study reported changes in 1 or more habits does not necessarily mean lifelong changes. However, Gatherer et al.³⁶ and Aarø⁴¹, claim that short repetitive campaigns over the years will change people's behaviour through the influence of social norms and attitudes in the population.

CONCLUSION

As illustrated in *table 1* the Finnmark intervention study represents a comprehensive effort implementing community-based interventions and examining effects on a wide range of end-points. The present intermediate analyses indicate the interventions to have been well accepted by the population and to have involved a reasonably high proportion. The findings of negative relationships between self-reported behaviour change and new information gained on the one hand and educational attainment on the other, might indicate that the interventions have reached the least privileged groups which was the aim of the intervention. The approach in Nordkapp, selecting specific target groups by focusing on practical problems of the working environment and at the same time giving consideration to their established way of verbal and practical dissemination of knowledge, seems to be more effective in this respect than trying to mobilize the population at a more general level, presupposing written communication and comprehension. The subsequent analyses after the final evaluation on the whole range of interventional end-points will, hopefully, disclose possible equitable effects. Whether the interventions have heightened the community potential for self-empowerment so far remains an open question.

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