Interventions for Alcohol Problems Among Norwegian General Practitioners

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Abstract: Aims: To investigate the use and the obstacles to use of screening and brief interventions (SBI) for alcohol misuse among Norwegian general practitioners (GP). Methods: A questionnaire with 68 questions about the use and barriers to use of SBI in general practice was mailed to 2000 randomly selected Norwegian GPs. Results: The survey response rate was 45%. There was a much higher prevalence of using interventions (Mean = 4.47 on a 7-point Likert scale) than of screening for alcohol problems (Mean = 2.10 on a 7-point Likert scale). Regression models showed that knowledge and self-efficacy were the main predictors for GPs' use of screening instruments and use of interventions respectively, in particular with regard to use of screening. However, GPs' views of their relationship with their patients, and structural factors were significant predictors. Conclusions: 1) Norwegian GPs do not necessarily see the link between screening for alcohol problems and conducting interventions, 2) Factors on at least three levels, i.e. personal, social, and structural play significant roles for understanding the problems related to implementing the use of SBI in general practice. 3) Training GPs in the use of SBI is important but may not increase GPs' use of SBI due to social and structural barriers.

 INTRODUCTION

Over the past 30 years, screening and brief intervention (SBI) for alcohol problems

has received significant research and clinical attention, but has generated some

conflict in results across the broader literature (e.g. Heather 1989 & 1996, Bien,

Miller and Tonigan 1993, Poikolainen 1999, Thorsen 2000, Kaner et al. 2007). The

primary health care sector is traditionally seen as the natural setting for brief

interventions. First, it is the natural setting for detecting health problems. Second,

problem drinkers have a higher prevalence of visits to physicians, up to twice as

many visits as social drinkers (Anderson, 1993).

There is little doubt about the efficacy of SBI but implementation of the procedure

In the primary health sector seems difficult (Bien, Miller & Tonigan, 1993; Duckert,

1994; Heather, 1996; Beich et al. 2002, Anderson et al. 2004). Duckert (1994)

and Heather (1996) point out that typically in the studies physicians are supposed

to both screen for alcohol problems and treat them, indicating that not only must

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the physicians know about the screening mechanism but also about the appropriate intervention following the screening. Furthermore, Beich et al. (2002) found that not only was it difficult to get Danish primary care physicians to use SBI for alcohol problems in their work routines, but for those who did try it, it was thought to create more problems than solutions. In particular, there seems to be reluctance among health care personnel to take on this "extra" work.

Another major problem is that physicians are often lacking in knowledge regarding available screening instruments and the breadth of treatment options for alcohol problems.

It has been suggested that one way of promoting physicians' participation in this kind of intervention work could be better education and training on how to cope with alcohol problems (e.g., Townes & Harkley, 1994; Kahan, Wilson & Becker, 1995; Ockene et al., 1997; Wilk, Jensen & Havighurst, 1997). However, Anderson et al. (2004) found that training only worked with general practitioners (GPs) who already felt secure and committed to working with drinkers. Furthermore, they found that attitudes towards working with drinkers actually worsened for GPs who were already insecure and uncommitted.

The present study was conducted to advance understanding of the use of SBI among Norwegian primary practitioners, and to see how some of the obstacles reported in the literature, i.e. lack of knowledge and self-efficacy, impact on patient/doctor relationship, and structural issues, e.g., reimbursement for SBI services, are experienced by Norwegian physicians, and whether such factors are predictive of GPs' use of SBI for alcohol problems. Norway has restrictive alcohol

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policies (Brand et al. 2007) and there is generally much concern about alcohol problems in the Norwegian population. With a generally high perception of alcohol problems it could be assumed that Norwegian primary practitioners have a high degree of knowledge and self-efficacy regarding SBI and hence, there would be widespread use of the procedures.

Following Beich et al.'s (2002) call for more pragmatic studies in this field, we designed a mixed methods study, comprising a quantitative survey of GPs and a qualitative study consisting of semi-structured interviews with groups of GPs (to be reported later). The survey provided information about the prevalence of use of SBI and some indications of main obstacles to using the procedures.

This paper reports on the findings of the survey. In addition to enquiring into physicians' knowledge and self-efficacy, we also included questions about actual use of SBI, communication with patients about alcohol, attitudes to SBI, need for training in SBI, and experience and expectations about likely reactions of patients when SBI is used.

METHODS

Sample

This study is based on a sample of 901 general practitioners (GPs) out of 2000 who were randomly selected from the total population of 3860 GPs in Norway. The sample was put together by the Research Institute of the Norwegian Medical Association from a list of all Norwegian GPs. The survey response rate was 45%. There is no tradition for paying respondents for participation in surveys in Norway,

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so we did not include any incentives to boost the response rate.

Data

In May 2008, a questionnaire with a total of 68 questions about the use and barriers to use of SBI in general practice as well as a few questions about smoking cessation was mailed to the GPs in the sample. The GPs had the option of answering the survey online or filling out the paper version and mailing it. Reminders were sent out to non-respondents twice. Of the 901 respondents, 423 or 46% chose to use the option of filling out the questionnaire online. Data were transferred to SPSS for analysis.

Measures

Respondents were asked questions in 9 main categories, including tobacco intervention and demographics. Eight of these categories consisted of a number of statements that the GPs were asked to answer on 7-point Likert scales, including "Completely Disagree" to "Completely Agree" and "Never" to "Always". The categories encompassed: 1) Knowledge/self-efficacy pertaining to SBI, 2) use of screening instruments, 3) use of interventions, 4) attitudes towards use of screening instruments, 5) communication with patients about alcohol, 6) expected impact on the doctor/patient relationship if suggesting alcohol interventions, and 7) experience handling alcohol problems among patients. Included under demographics were questions about the proportion of patients with alcohol problems in their practice. Items were developed based on previous Norwegian surveys of GPs as well as on issues reported in the literature pertaining to barriers of using SBI in general practice. Based on pre-conceived constructs, i.e. findings

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reported in previous research that formed the basis for the present study, a number of measures were developed.

Knowledge/Self-Efficacy regarding screening instruments

Knowledge/self-efficacy regarding alcohol screening instruments was assessed with two questions, 1) "I have good knowledge about one or more screening instruments for alcohol problems", and 2) "I know how alcohol screening instruments should be used", (Pearson's r = .78, $p<.01$). The mean of these items was used. Due to a relatively high skewness, the log transformed variable was used for analyses.

Knowledge and Self-Efficacy regarding intervention

Knowledge and self-efficacy regarding intervention was treated separately. Whereas the correlation between the knowledge and the self-efficacy variables regarding screening instruments was strong, the correlation between the two regarding intervention was weaker (Pearson's r = -.40, $p<.01$), justifying conducting separate analyses for each of these variables' predictive value for using interventions.

Patient-Doctor relationship

A scale was developed to capture the physicians' impression of what impact the use of SBI might have on their relationship with their patients. The scale incorporated 5 questions, 1) "If I used screening for alcohol problems more often, it would have a negative influence on my relationship with my patients", 2) "I do not use screening because my patients might ask me for help that I am unable to provide", 3) "It is difficult to talk to patients about drinking habits after screening

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has shown elevated risk" 4) "I feel that I interfere too much in my patients' private life", and 5) "I often experience negative reactions to an intervention", (Cronbach's α = .594). The mean of these scores was used.

Communication between physician and patients

To capture different aspects of communication between the physician and the patients about alcohol a scale was developed encompassing 3 variables, 1) "When you see a new patient for the first time, how often do you ask about drinking habits?", 2) "When you treat patients without any immediate signs of alcohol problems, how often do you ask about drinking habits?", and 3) "When you have a suspicion that one of your patients drinks too much, how often do you ask about drinking habits?", (Cronbach's α = .625) The mean of these scores was used.

Attitudes towards the use of screening instruments

A 3-item-scale was used to assess physicians' attitudes towards the use of screening instruments: 1)"Screening is a good tool to find out if a patient has alcohol-related problems", 2) "Screening is a good tool to find out how serious alcohol problems a patient has", and 3) "Screening provides information that is useful for the treatment of the patient", (Cronbach's α = .938). The mean of these scores was used.

Use of screening instruments

A 3-item-scale was developed to assess physicians' use of screening instruments: 1) "How often do you use screening as part of a general health check?", 2) "If you have a suspicion of a patient having an alcohol problem, how often do you use a

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screening instrument?", and 3) "Do you use screening instruments as a tool in follow-ups with patients who have an alcohol problem?", (Cronbach's α = .861). The mean of these scores was used. Due to a relatively high skewness, the log transformed variable was used for analyses.

Use of interventions

Three questions were asked about physicians' use of interventions when a patient shows signs of alcohol related problems: 1) If one of my patients shows if signs of alcohol problems, I perform an intervention myself", 2) "If one of my patients shows signs of alcohol problems, I refer him/her to specialist treatment", and 3) "If one of my patients has received brief intervention, I closely monitor the progress", (Cronbach's α = .758). The mean of these scores was used.

Experience

To capture the physicians' experience we created a measure based on age and years of practicing medicine (Pearson's r = .89, $p<.01$). The mean of the scores on these two items was used for analyses.

Analysis strategy

Frequency tables were created to examine the prevalence and frequency of the use of SBI among Norwegian GPs. Correlation analyses were performed to look at the associations between physicians' use of alcohol screening instruments and brief interventions and potential explanatory and demographic variables. Finally, based on the findings of the correlation analyses, linear and logistic regression models were run to identify which explanatory variables would contribute most to the prediction of physicians' use of alcohol SBI.

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RESULTS

Descriptive analyses

The frequency tables for the use of alcohol screening instruments in different

situations clearly show that Norwegian GPs do not utilize these instruments very

often. Table 1 shows frequency scores for the three questions in the survey on

(Table 1 about here)

the use of screening instruments. Close to 50% of GPs answer that they never

use screening tools even if they have a suspicion of an existing alcohol problem in

their patient. When looking at the question of intervening when a patient has an

alcohol problem, we get a somewhat different picture. The second section of

Table 1 indicates response distributions on the 3 questions covering different

aspects of interventions when a patient shows signs of alcohol problems. As can

be seen in this table, Norwegian GPs are much more likely to act if a patient

shows signs of an alcohol problem than trying to identify the problem by using a

screening tool. A look at specific brief interventions that the GPs carry out reveals

that they apparently are more comfortable with interventions that involve direct

communication with the patient. The third section of Table 1 presents the

distribution of answers to the questions about these brief interventions. Clearly,

the GPs use interventions that involve more direct communication with the patient

more often than giving patients written information, e.g., brochures.

The lack of use of screening instruments becomes even more prevalent when

looking at answers to the open question of which screening instruments they do

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use if using any to identify alcohol problems among their patients. Table 2 shows the distribution of responses. Almost 75% of respondents reported not using any

(Table 2 about here)

instrument. Some GPs may not have answered this question due to time constraints but in combination with the frequencies presented in Table 1, there seems to be very little use of screening instruments to identify patients with alcohol problems among Norwegian GPs. This was an open question for which the respondents were allowed to write more than one answer. Also, it should be noted that the category "Other" mostly consists of statements about "Long experience talking to the patients", "Counting the patient's alcohol units" or a number of smaller relatively unknown domestically developed instruments.

Correlation analyses

Preliminary bivariate correlation analyses were conducted with background variables as well as potential explanatory variables. The purpose of these analyses was to identify factors that may help to predict 1) use of alcohol screening instruments among the participating GPs, and 2) use of appropriate interventions whenever a patient showed signs of alcohol problems. Two of the above mentioned scales were used as dependent variables; "Use of alcohol screening instruments" and "Use of interventions" respectively.

Use of Alcohol Screening Instruments

The analysis revealed a number of significant correlations between "Use of Screening Instruments" and explanatory variables. There was a very strong correlation between the use of alcohol screening instruments and knowledge/self-

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efficacy regarding such instruments (Pearson's r = .62, p<.01). Communication between physician and patients was also moderately correlated with use of screening instruments, (Pearson's r = .20, p<.01), suggesting that the more physicians talk to their patients about alcohol issues, the more likely they are to use alcohol screening. "Knowledge of Interventions" was moderately correlated with the use of screening Instruments, (Pearson's r = .20, p<.01). Furthermore, "More screening if higher reimbursement" and "Proportion of male patients with alcohol problems" were weakly correlated with use of screening instruments (Pearson's r = .10 and .09, respectively). Experience was also weakly and negatively correlated with use of screening instruments, (Pearson's r = -.10, p<.01), meaning that younger physicians and physicians who had practiced medicine for a shorter period of time would be more likely to use screening. Gender was not significantly associated with either use of alcohol screening or knowledge/self-efficacy regarding screening instruments. We also conducted this analysis using the log transformed variables for "use of alcohol screening instruments" and "knowledge/self-efficacy regarding instruments" and found the same pattern of correlations with only minor discrepancies.

Use of interventions

The analysis revealed a number of significant correlations between "Use of Interventions" and explanatory variables. Not surprisingly, knowledge of interventions shows the strongest association with use of interventions, (Pearson's r = .26, p<.01). There is a negative association between use of interventions and lack of competence to perform interventions, (Pearson's r = .20, p<.01). This

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indicates that GPs with low self-efficacy use interventions less frequently than GPs with high self-efficacy. There is also a positive relationship between physicians who score high on communicating with their patients about alcohol and the use of interventions, (Pearson's r = .22, *p*<.01). Other significant but lower correlations revealed that physicians who score high on intervening with smokers also score higher on intervening with patients who have alcohol problems (r = .09). It also appears that physicians who are familiar with screening instruments and who use them tend to perform interventions with patients with alcohol problems more often than physicians who are less familiar with screening instruments (r = .16). Finally, access to specialized treatment was positively related to physicians' use of alcohol interventions (r = .12). Gender was not significantly correlated with use of interventions.

Regression analyses

Regression analyses for both use of alcohol screening and use of interventions were conducted to investigate the simultaneous effect of the explanatory variables on the dependent variables.

Use of Screening

We conducted linear regression analysis using the explanatory variables that showed a significant correlation with use of alcohol screening. Due to the skewness of "Knowledge of Screening Instruments" and the "Use of Screening" variables we used log transformed variables. When including all explanatory variables in the model, we found that knowledge of interventions was no longer significantly associated with use of screening. Hence, we excluded that variable

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from the model. The final linear regression model is presented in Table 3. Beta coefficients in Table 3 indicate that knowledge/self-efficacy is strongly associated with use of screening among Norwegian general practitioners in the presence of other predictors.

(Table 3 about here)

All other variables in the model explain a much smaller proportion of the overall variance in the dependent variable. Consistent with bivariate analysis results, experience was negatively correlated with use of screening instruments, indicating that younger general practitioners with fewer years in general practice tend to use screening more than older physicians with more years in general practice. Finally, the physicians indicated that they would expect to use screening more if there were better reimbursement for doing so.

Use of Interventions

Because of the non-normal distribution for use of interventions, even after log transformation, we used a logistic regression model to predict the likelihood of this behaviour. The "Use of Intervention" scale was used as response and dichotomized between the uppermost quartile versus lower quartiles combined. We wanted to compare the physicians who were most likely to use interventions with all other physicians. In the first step we included all the explanatory variables from the correlation matrix in the model. This first step revealed that a number of variables were not significant predictors. The final logistic model, with only significant predictors, is presented in Table 4:

(Table 4 about here)

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Knowledge of interventions was associated with a greater likelihood of using interventions when patients show signs of alcohol problems. Lack of competence to perform interventions was negatively associated with use of interventions, indicating that low self-efficacy was associated with low use of interventions. Different aspects of communication also appear to be important for the use of interventions among Norwegian general practitioners. Physicians who were more confident about talking to their patients about alcohol issues had a greater likelihood of using interventions in contrast to physicians who thought that raising alcohol as a subject with their patients would have a negative impact on the doctor/patient relationship. Finally, physicians who expressed having easier access to specialized treatment for alcohol problems were more likely to use interventions when their patients showed signs of alcohol problems. Thus, as with use of screening, personal as well as social and structural factors may affect the use of interventions.

DISCUSSION

We found that greater knowledge and self-efficacy regarding screening instruments is strongly associated with use of alcohol screening. Although it stands to reason that physicians will not use screening tools unless they know about them, it cannot be concluded that physicians will definitely use instruments simply because they know about them. Furthermore, given the findings of Beich et al. (2002) that physicians who received training in SBI experienced problems implementing the procedures in their daily routines, more knowledge and training

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does not necessarily lead to more use of the procedure. Hence, it is impossible to say anything about the direction of this correlation.

A variety of factors appear to be involved in GPs' use of screening. The variables in the regression model represent different dimensions of general practice. The knowledge/self-efficacy component points to general education and training in the use of tools and instruments related to SBI, whereas the communication component points to relationship factors between physician and patient and finally, the reimbursement factor points to structural questions about integrating SBI into general practice. The relationship between the proportion of male patients with alcohol problems and use of screening might be because more contact with such patients leads to greater sensitivity to the issue, or *vice versa*. The impact of the experience factor might be interpreted in relation to the knowledge factor, i.e. younger physicians may have learned about SBI procedures in their medical education and training as opposed to older physicians with longer experience in general practice who did not.

The analyses show that Norwegian GPs are much more likely to use interventions for an alcohol problem they see than try to identify a potential alcohol problem. This may be interpreted as GPs being more focused on treatment than prevention. However, physicians often perform preventive work related to other diseases e.g. smoking cessation advice for cardio-vascular diseases. Thus, perhaps either GPs do not see alcohol as a particular health risk or alcohol is a substance that is perceived as more difficult to deal with than for example tobacco. Our data do not allow us to make inferences about this question. In relation to interventions used,

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it is surprising that physicians score relatively low on the question about giving patients guidelines for reducing alcohol consumption. This may indicate a lack of knowledge about such guidelines, as shown in the correlation we found between general knowledge of different interventions for alcohol problems and the use of such guidelines (Pearson's r = 45, p<.01). Furthermore, some physicians may include advice about how to reduce alcohol consumption in the discussion and feedback on drinking habits, as indicated by the correlation between these two variables (Pearson's r = .36, p<.01).

CONCLUSIONS

The analyses we present point to a number of conclusions. First, the difference in the prevalence of using screening and conducting interventions indicates that it is difficult to treat the two as one entity among primary physicians. Alcohol screening and brief interventions have become the "popular" name for a variety of procedures focused on detecting alcohol problems and conducting some kind of brief intervention to alleviate the problems detected. However, the results of this study show that Norwegian physicians do not necessarily see the link between the two parts of this procedure. Unfortunately, our data do not allow us to make any inferences about the level of severity of alcohol problems among patients before they receive treatment and how alcohol problems were detected, but our findings indicate that Norwegian general practitioners are more likely to act on alcohol problems after they are visible rather than screening proactively.

Second, of the constructs examined in this study, knowledge and self-efficacy

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regarding alcohol screening tools were most strongly associated with the use of alcohol screening instruments. However, as has been pointed out, we do not know the direction of this association. It is possible that increased knowledge and self-efficacy will lead to increased use. On the other hand, it could just as well be argued that GPs' use of alcohol screening and brief interventions increases their knowledge and self-efficacy about these procedures. As previous research shows, more training of general practitioners does not necessarily lead to increased use of alcohol screening and brief interventions (Beich, 2002; Anderson, 2004). However, it is clear that without greater knowledge and skills in the use of these procedures, we cannot expect them to be used. Hence, there is a need for improving physicians' level of knowledge and skills in using SBI procedures.

Third, we found that factors influencing the use of alcohol screening instruments and in conducting interventions could be described in three major categories, 1) personal factors, 2) social factors and, 3) structural factors. Personal factors included experience, knowledge, and self-efficacy; social factors included communication between GP and patient; and structural factors included reimbursement for services, access to specialized treatment, and prevalence of alcohol problems among patients. As noted above, personal factors were most strongly associated with both outcome variables, particularly knowledge and self-efficacy. However, communication with patients about alcohol was also significantly related to both use of screening and interventions. Beich et al. (2002) reported in their study of 39 Danish GPs who volunteered to implement WHO's screening and brief intervention program for eight weeks that one of the main

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issues for Danish GPs in rejecting SBI in general practice was the impact they felt the procedures would have on their relationship with their patients. We found in this study that GPs who were comfortable discussing alcohol with their patients were significantly more likely to use alcohol screening or brief interventions in their practice. We also found that GPs who felt that the use of alcohol screening and brief interventions would have a negative impact on their relationship with their patients scored significantly lower on the use of interventions. These findings confirm that the doctor/patient relationship is a concern for GPs when approaching alcohol questions with their patients.

Finally, structural variables showed a significant association with the use of alcohol screening and interventions. The prevalence of alcohol problems among male patients and higher reimbursement were significantly associated with use of alcohol screening, and access to specialized treatment was significantly associated with use of interventions. It should be noted that at present there is no specific code for reimbursement for screening for alcohol problems. However, in the qualitative study GPs stated that there was always the possibility of including it under other codes.

These findings point to a complex set of factors influencing the use of alcohol screening and interventions among Norwegian general practitioners. Although, the findings presented here provide statistical evidence of associations between explanatory variables on different levels and outcome variables for both screening and intervention, we still do not understand how these factors may interact. Therefore, more research is needed to better understand these relationships.

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Qualitative approaches may be necessary in future research to gain a better understanding the complexity of use and barriers to use of SBI in general practice.

Limitations of the Study

The low response rate in this study reflects the increasing difficulty of establishing high response rates to surveys in general. There is no doubt that the GPs in general are tired of the increasing amount of paper work, they have to take care of. In fact, at the end of the survey, an open-ended question gave them the opportunity to comment on the survey, and a few of them thought that the questionnaire was too long. However, more than 23% of the entire population of Norwegian general practitioners are represented in the sample, with a representation of GPs from the different health districts in Norway between 19.5% and 23.5%. Additionally, attrition analysis revealed no significant differences between respondents and non-respondents in terms of age (mean = 46.71 and 47.01 respectively) and gender (33% women and 67% male in both samples). Furthermore, there were no significant differences between the different health regions in the study.

A second limitation of the study is the appropriateness of using survey methodology to study the phenomena presented in this paper. Even using 7-point scales for most questions, providing a possibility for respondents to qualify their responses, many questions in the questionnaire could be experienced as imposing judgement on their practice of handling alcohol problems among their patients, particularly given the "negative" formulation of a lot of the statements. However, many of the negatively formulated statements reflect findings reported in the

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literature and, hence, this study attempted to measure how Norwegian GPs experienced the barriers reported by others.

Finally, the cross-sectional study design limited our ability to determine the temporal ordering of relationships of interest and to make causal inferences. Qualitative methods no doubt would contribute to creating an atmosphere and rapport between researcher and respondent that potentially could shed more light on the issues investigated in this study by giving the physicians a possibility to elaborate on their responses to specific areas and questions of interest. Therefore, we combined this quantitative component with group interviews with a number of physicians, which will be analyzed in a later component of the study.

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Table 1. Frequency of screening, interventions, and specific brief interventions

	1 Never	2	3	4	5	6	7 Always		N
Use of Screening	%	%	%	%	%	%	%	%	
How often do you use screening instruments as part of a general health check?	44.3	27.2	13.3	9.8	3.6	1.6	0.3	100	897
If you have a suspicion about an alcohol problem, how often do you use a screening instrument?	49.4	20.8	8.5	6.8	5.4	5.5	3.6	100	899
Do you use screening instruments to monitor patients with a risk of developing alcohol problems?	57.3	20.3	7.9	6.5	3.8	2.8	1.4	100	897
Use of Interventions									
If one of my patients shows signs of an alcohol problem I perform an intervention.	10.9	3.8	5.0	12.6	27.0	19.2	21.3	100	895
If one of my patients shows signs of an alcohol problem, I refer him/her to specialist treatment.	9.5	5.4	11.1	23.7	29.2	15.9	5.2	100	893

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If one of my patients has received brief intervention I closely monitor the progress.	11.5	3.3	9.5	26.8	25.5	15.8	7.7	100	887
Specific Brief Interventions									
Discussion of and feedback on drinking habits.	1.6	1.2	3.1	10.1	24.5	29.9	29.6	100	891
Information about health risks related to high alcohol intake.	1.4	0.6	3.4	9.5	21.5	32.0	31.8	100	888
Brochure hand outs.	28.9	21.9	16.3	16.8	8.8	5.3	2.0	100	887
Guidelines for cutting alcohol consumption.	14.6	13.4	11.6	21.0	18.5	13.6	7.2	100	885

Table 2. Which screening instruments do Norwegian GPs use?

	Frequency	N
No Instrument	672(74.66%)	901(100%)
AUDIT	75(8.3%)	901(100%)
CAGE	48(5.3%)	901(100%)
Bio markers	43(4.8%)	901(100%)
Other	76(8.4%)	901(100%)

Do not remember		12(1.3%)	901(100%)

Table 3. Regression analysis of use of screening, standardized Beta and p value

Variable	Log Use of Screening	
	Beta	*p*
Log Knowledge/self-efficacy of Instruments	.611	.000
Communication physician/patients	.085	.003
Experience	-.085	.004
Proportion of male patients with alcohol problems	.088	.003
More screening if higher reimbursement	.097	.001
R^2 = .438		

Table 4: Results of logistic regression analysis to examine various predictors of

Norwegian physicians' use of interventions.

Variable	Odds Ratio (95% CI)
Knowledge of Intervention	1.43 (1.24 – 1.63)
Communication physician/patients	1.51 (1.28 – 1.77)
Access to Specialized Treatment	1.18 (1.08 – 1.30)
Intervention influence on Doctor/Patient Relationship	.78 (.63 - .97)

Lack of competence to perform interventions	.86 (.77 - .96)
	Cox & Snell R^2 = .14

Note: CI = Confidence Interval