RESEARCH PAPER

Community tobacco control leaders' perceptions of harm reduction

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Received 3 April 2003
Accepted 6 October 2003
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Objective: To investigate community tobacco control leaders' attitudes toward harm reduction approaches to tobacco use, in order to assess benefits and risks associated with these strategies.
Design: Cross sectional design involving qualitative outcomes from nine structured focus groups.
Subjects: 47 community tobacco control leaders in Minnesota working in the areas of public policy, clinical treatment of nicotine dependence and youth development participated.
Outcome measures: Participants discussed definitions of harm reduction; benefits and risks of harm reduction methods; and how funds for tobacco control research and programmes should be allocated.
Results: Results indicated inconsistency about the definition of harm reduction: most groups included a broad range of strategies that extended beyond those typically referenced in the scientific literature. Many participants stated that harm reduction might be beneficial, particularly for smokers who could not or would not quit. However, most also expressed concern about a number of risks, including delivering a mixed message about tobacco, inadvertently benefiting the tobacco industry, and causing unanticipated negative health effects. Participants were inclined to suggest public policy measures (for example, smoking bans, increased taxes) as means for reducing harm.
Conclusions: Results indicate that even among tobacco control leaders there is a need for common terminology to describe harm reduction approaches and that public policy approaches to harm reduction are considered more dependable than strategies that involve pharmaceutical treatment or rely on the tobacco industry, such as product modification.

Over the past several decades considerable progress has been achieved in the treatment of nicotine dependence. Behavioural and pharmacological treatments have been found to increase six month smoking cessation rates 2–3 fold.[1] Despite these advances, numerous smokers relapse and others do not make an effort to stop. There is renewed interest in harm reduction methods as an alternative to cessation to reduce mortality and morbidity for this population of persistent smokers.

Harm reduction is not a new concept. Epidemiological studies demonstrate that the health effects of smoking are dose related, suggesting that lower exposure to tobacco should confer health benefits to individuals.[2][3] The filter and low yield cigarettes that were introduced in the 1950s and 1960s claimed to reduce toxin exposure from cigarettes. However, previous and recent reports have shown that low yield cigarettes did not improve health, and may be responsible for an increase in adenocarcinoma of the lung and deterring abstinence attempts.[4]

In the 1960s, smoking reduction was suggested as an alternative approach for smokers who are unwilling or unable to quit; however, studies conducted in the 1980s showed that only a small proportion of smokers sustained reduced levels of smoking.[5][6] Recognition of the role of nicotine dependence in maintenance of smoking and the development of medicinal nicotine products, which could provide a safer source of nicotine than tobacco and minimise compensatory smoking behaviour, has sparked renewed interest in reduced smoking interventions. Recent clinical trials suggest smokers can maintain reduction in the number of cigarettes smoked over time; however, toxin exposure reduction may not be proportional to reduction in cigarettes.[7–11]

The recent Institute of Medicine (IOM) Report, entitled *Clearing the smoke*, states ''a product is harm reducing if it lowers total tobacco-related mortality and morbidity even though use of that product may involve continued exposure to tobacco-related toxins, (including nicotine)''.[12] Examples of products that *might* fall into this category include medicinal nicotine products, non-combustible tobacco products (for example, smokeless tobacco), cigarette-like products that involve less combustion than conventional cigarettes, and modified tobacco products that produce less toxin exposure (for example, lower levels of nitrosamines). While at first glance these may appear to be safer alternatives to smoking, researchers and advocates in the tobacco field have expressed scepticism about the potential benefits of modified tobacco products with less concern over long term use of medicinal nicotine.[13] Suggested problems with this approach include the possibility of deterring smokers from the optimal goal of quitting.

The University of Minnesota Transdisciplinary Tobacco Use Research Center (TTURC) conducts a spectrum of projects addressing tobacco exposure reduction, ranging from basic science studies to clinical trials. The premise of these studies is that a scientific approach and data are needed to determine the behavioural, health, and public health effects of harm reduction strategies in order to help address these conflicting views.

The purpose of this project was to seek public comment about harm reduction strategies from the tobacco control community in order to better understand stakeholders' views toward this approach. We conducted focus groups among community opinion leaders in the areas of tobacco public

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policy, clinical treatment, and youth development. These views may elucidate an appropriate role for harm reduction strategies in a comprehensive tobacco control plan, should they prove effective at improving health.

METHODS
Study design
A series of nine focus groups with local tobacco control experts was conducted at the University of Minnesota TTURC in the Fall (autumn) of 2001.

Participant recruitment
Lists of potential participants from the tobacco control community were generated from membership rosters of tobacco control organisations and recommendations from TTURC staff and affiliates. Three groups of community leaders were of particular interest: (1) public policy experts (for example, from tobacco control organisations, law schools and law offices, members of the State Attorney General's Office associated with the law suit against the tobacco industry); (2) clinicians treating nicotine dependence; and (3) youth development and education specialists (for example, health staff from various school districts, Tobacco Free Kids, Target Market).

There were three focus groups conducted among each of the three types of opinion leaders, for a total of nine groups. In total 110 people were invited to attend, 52 responded and 48 attended: 18 participants from the policy field, 13 from the clinical treatment field, and 17 from the education arena. Participants were 50% female. Subjects received an incentive of a $50 gift certificate for participation and were assured of confidentiality.

Question development and administration
An introductory script and structured questions were developed, pilot tested, and revised to include eight questions (table 1). We advised participants to be frank and honest about their responses and assured them that there were no right or wrong answers. Special attention was given to phrasing open ended questions. The co-moderator provided an oral summary at the conclusion of each focus group to assure that participants had an opportunity to add or clarify what was heard and recorded.

Focus group setting
All groups met at 8 am and concluded within two hours. Groups included 2–8 participants. There was a moderator, co-moderator, and staff person present for each session. Three investigators were trained as moderators and conducted three sessions apiece. Moderators observed sessions led by

other moderators in order to help conduct groups in a uniform manner. The same co-moderator and staff assisted all nine groups. All sessions were audiotaped. Moderators and co-moderators calibrated themselves by conducting debriefing sessions immediately after each group.

Analysis
Tapes were spot checked to assure quality of the recordings. Transcribers were instructed to transcribe the audiotapes word-for-word and the transcripts were reviewed for accuracy and compared to field notes. All quotes used in the report have been verified verbatim on the tapes.

Transcripts were coded first for group type (policy, clinical treatment, or youth development). Analysis consisted of identifying themes in the transcripts, and then grouping quotations that related to the themes.[14] Transcripts were jointly reviewed by at least two investigators and consensus was reached on grouping each response to each question. Participant comments were grouped with similar responses. Themes were summarised for each category and then patterns of respondent type observed. The complete team of investigators worked concurrently on the coding process and when issues of disagreement occurred the team re-examined source materials to develop the final interpretation. Individual quotations that eloquently expressed common sentiments were identified.

Institutional review board approval
The protocol was approved by the University of Minnesota institutional review board. All participants provided written informed consent prior to participation.

RESULTS
Definition of harm reduction
The first question gauged participants' general impression of the term ''harm reduction'' with respect to tobacco. After an open period of discussion, the IOM report definition of harm reduction was provided to include in the framework.

General comments and reactions
''Harm reduction'' was often understood as a term that embraced all strategies that might reduce the use of tobacco or the health risks associated with tobacco use. Initial reactions included a broad range of definitions such as education initiatives, Food and Drug Administration (FDA) regulation of tobacco products, clean indoor air policies, and taxation. Focus group participants acknowledged the ambiguity of the term.

> ''Harm reduction is sort of an overall term and it encompasses everything…from total cessation of everybody smoking, to something like lighter cigarettes… I think if you are going to focus on tobacco, you need to…have a term other than harm reduction, because that is so all encompassing it doesn't necessarily mean anything.''

General benefits of a harm reduction approach included a potential reduction in mortality and morbidity for both smokers and non-smokers, either by reducing the amount smoked, reducing environmental tobacco smoke (ETS), or by reducing the number of smokers (that is, harm reduction leading to cessation). Harm reduction was also described as a way to target a population of adolescent and adult smokers who cannot or will not quit and therefore it was recognised as a more realistic strategy—''it is time to get away from zero tolerance because nothing is black and white''. Participants stated that by providing alternatives for smokers who are

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Table 1 Key questions*

1a	When you hear the term ''harm reduction,'' with respect to tobacco, what are your general reactions?
1b	Can you identify specific strategies for harm reduction?
2	[Ranking of strategies from most appealing to least appealing]
3	Write down three benefits of these strategies
4	Write down three risks (or disadvantages) of these strategies
5	Can you think of situations when the benefits would outweigh the risks?
6	What is needed to implement harm reduction strategies in the real world?
7a	How would you divide a program budget between prevention, cessation, and harm reduction?
7b	How would you divide a research budget between prevention, cessation and harm reduction?
8	What are the main points you would make to the Surgeon General if you had a few minutes to discuss harm reduction?

*Responses to questions 5, 6, and 8 are not included in this report.

unable to quit, a more understanding approach towards smokers is taken.

> ''Let's find some compassion for smokers, try to find some understanding and come up with as many strategies as possible for helping people who are addicted.''

Individuals mentioned that if smokers believed they are taking steps towards improving their health, self control and self esteem might be enhanced. Harm reduction was considered as a potential gateway to quitting, and could attract smokers to participate in treatment. Smoking cessation was described as a ''difficult process and different methods need to be used as well as a combination of methods to help the person quit smoking''. There was an assumption that harm reduction strategies might help change the image that the tobacco control movement is a ''bunch of health nuts''.

Negative reactions to harm reduction, however, outweighed the positive reactions. The most common general negative reactions were that harm reduction interventions would weaken cessation and prevention initiatives and would provide smokers with a mixed message about the importance of abstinence from tobacco. This would be interpreted as permission to smoke.

> ''I think that harm reduction offers large opportunity for denial and rationalization for individuals and organizations. So I am very scared of harm reduction.''

Several individuals noted that tobacco was so dangerous that harm reduction strategies would always be an inadequate response.

> ''I think I just have much more trouble taking or embracing the idea of harm reduction when it comes to something that is so harmful, that it is promoted by such a nasty industry.''
> ''…harm reduction is a red flag…harm reduction is a covered term for phony solutions designed to divert or frustrate real solutions.''

Specific strategies
Product modification
Product modification was identified as a harm reduction strategy by eight of the nine groups. The most frequently mentioned type of modification was reduction of nicotine in cigarettes. There was a common belief that nicotine could be eliminated from tobacco products, making them non-addictive. Decreasing carcinogens and tars in cigarettes was also mentioned as was removing additives, such as pesticides and ammonia. Tobacco products modified to contain fewer carcinogens (for example, Omni) were rarely spontaneously mentioned as harm reduction strategies. The only product mentioned by name was Eclipse (one instance). Fire-safe cigarettes were viewed positively. They were described as having the asset of not requiring a change in the behaviour of the individual smoker, yet resulting in societal benefit. Fire-safe cigarettes were considered to have no major downside, ''short of the tobacco industry adding asbestos to the product''.

Environmental tobacco smoke
Reducing ETS was mentioned as a harm reduction technique in eight of the nine groups. It was noted that policies concerning ETS help to reduce the number of cigarettes consumed, change patterns of smoking, and reduce exposure of children to ETS in the home.

Reducing the number of cigarettes
Reducing the number of cigarettes smoked was identified as a harm reduction strategy in six of the nine groups. Cigarette reduction was described as an individual approach to decrease tobacco intake by smoking less of each cigarette or by smoking only in certain situations. The reduction in the number of cigarettes was generally viewed positively.

> ''…if I am dealing with a pregnant woman who is struggling and can get down to one cigarette a day, but can't get below that, to protect the fetus I think that one cigarette a day is better than two packs a day, even though it isn't what I want.''

Many clinicians mentioned specific populations that might be appropriate targets for reducing the number of cigarettes, such as the elderly, adolescents, very dependent smokers, and mental health disorder patients.

Policies
Participants frequently identified public policies as harm reduction strategies. These included FDA regulation of tobacco products (five groups), taxes and pricing (five groups), youth access restrictions (two groups), and clean indoor air policies in worksites and restaurants (two groups). Other regulatory strategies included required labelling of ingredients, imposition of financial penalties on tobacco companies if goals for decreasing the number of new smokers were not met, and eliminating harmful ingredients.

Policies were considered to have beneficial effects for a broader population and greater impact in reducing smoking than individual interventions, to be more cost effective, and to produce sustainable results. Policies also were considered to lead to greater visibility of the smoking issue and to play an important role in redefining cultural and social attitudes towards smoking.

Long term nicotine replacement therapy
Comments regarding long term nicotine replacement therapy (NRT) were relatively uncommon. Some participants mentioned use of long term therapy as a means to reduce cigarette smoking, to reduce addiction and as a process towards quitting. The use of long term NRT might sustain involvement of the healthcare providers in the smoking cessation process and reduce ETS.

Other strategies
Chemoprevention was mentioned spontaneously in one of the nine groups. It appeared that most participants were unaware of this potential approach.

Appeal of specific harm reduction strategies
In each group, the co-moderator recorded strategies on a flip chart as they were mentioned. Participants were then asked to rank the appeal of each strategy by placing a blue, yellow, or red sticker beside it, to reflect whether they endorsed, felt neutral, or rejected strategies, respectively. Among the total sample, harm reduction strategies were endorsed more commonly than rejected, with the exception of the specific strategies of product modification and chemoprevention (table 2). Policy changes received the most consistent and positive endorsement. There were no remarkable differences in strategy preferences between the policy, treatment, and educator groups.

Table 2 Numbers of community tobacco control leaders endorsing or rejecting specific harm reduction approaches

	Policy group (n = 18)		Treatment group (n = 13)		Educator group (n = 17)		Total (n = 48)	
	Endorse	Reject	Endorse	Reject	Endorse	Reject	Endorse	Reject
Product modification	2	6	0	6	5	7	7	19
Reducing cigarettes used	3	2	3	0	8	1	14	3
Policy changes*	18	0	10	2	15	0	44	2
NRT	6	1	6	3	7	3	19	7
Education, prevention, behavioural approaches	0	0	9	0	8	0	17	0
Chemoprevention	0	6	0	6	0	3	0	15
Total	30	15	28	17	43	14	101	46

*Policy changes include reduction of environmental tobacco smoke, product regulation, and taxation.
The number of neutral responses for each group equals the total number for a particular group minus the number who endorsed or rejected the strategy.
Because of the non-random selection of participants these numbers are not intended to be projected to the populations of policy makers, treatment professionals or educators.
NRT, nicotine replacement therapy.

Risks
Diluting the importance of quitting
Participants frequently raised the issue that harm reduction strategies may dilute the important message that tobacco is not safe. They described the harm reduction message as ''confusing'' because *no* amount of tobacco exposure is safe, and harm reduction defines some level of smoking as acceptable—''the only safe cigarettes are those that have never been smoked''. Another participant objected:

> ''...there is no safe level of tobacco smoke and even if they lower the tobacco-related morbidity and mortality, there is probably no way in the foreseeable future that you won't have morbidity and mortality related to tobacco smoking. And to reduce the carcinogens in tobacco smoking is PR [public relations] and not PH [public health].''

Crafting an appropriate communication strategy regarding harm reduction would be challenging. Promoting harm reduction might create a false sense of security among smokers. It was considered important to be clear that harm reduction is not a goal in itself—''elimination would be the goal''. Participants discussed the risk that smokers would continue to feel alienated and bad about smoking, and feared that availability of harm reduction strategies may lead to more resistance from health care providers to proposing cessation interventions to their patients.

Lack of evidence
It was noted that there is a lack of evidence that these strategies do, in fact, reduce harm.

> ''And bottom line at this point in time...we just don't know enough about them to champion them or provide our support.''

Participants indicated that we do not yet know how to accomplish the goal of reduced smoking and whether reduced smoking improves health. There was doubt about the feasibility of sustaining cigarette reduction because research indicates that smokers change their behaviour to compensate for reduced nicotine delivery. Several clinicians mentioned that it was difficult for smokers to get to below 10 cigarettes per day.

Cost
In order to implement harm reduction strategies there is a need for additional research and regulation. These efforts are likely to divert funds from tried and true approaches to reducing the health effects of tobacco use—namely, prevention and cessation.

> ''...we have strategies and research to support those strategies that we know do work, and I would like us to spend more of our resources in actually implementing [those] things.''

Competition for funding has the potential to split the tobacco control community, which is especially risky in the face of industry promotion of tobacco products. This view of the risks of harm reduction strategies was most commonly endorsed by leaders in the public health community.

Additionally, the strategies used to reduce harm were considered to be potentially expensive. For example, harm reduction strategies that include combination behavioural and pharmacological treatment to reduce smoking or to sustain abstinence may be too cost prohibitive to most consumers.

> ''...more drug costs are driving healthcare costs and adding more drugs to people...it is a potential problem that benefits corporations rather than the public.''

Unintended consequences
Participants expressed concern about potential unintended consequences of harm reduction, including discouraging people from quitting smoking, and increased use of smokeless tobacco and ''closet smoking''. Participants from nearly all groups raised the issue that harm reduction does not address nicotine addiction, which is the underlying factor in tobacco use. In fact, harm reduction may promote dependence because smoking only a few cigarettes may be very reinforcing.

> ''...it truly is the addiction that we have to address, and I would be afraid that we would lose sight or track of that.''

Benefits to the tobacco industry
Many participants expressed fear that the tobacco industry would use this opportunity to further deceive and manipulate the public. There was scepticism about the ability to modify tobacco products sufficiently to improve safety in a meaningful way. They felt the products would still be carcinogenic, and would continue to cause diseases other than cancer.

''…you still can't eliminate those 57 carcinogens and carbon monoxide and other things. It's an all or nothing proposition as I see it, that is why I have never had anything good to say about product modification.''

Several people doubted that smokers would purchase the products because they would not be attractive to smokers.

The most consistent concern about modified products was that this approach relied on the integrity of the tobacco industry to be effective. There was a lack of trust that tobacco companies could present information about altered products in a straightforward manner because their research was biased and misleading. They also felt this approach gave the industry a chance to look good, and might help to maintain their business.

Risks of chemoprevention
Chemoprevention presented an ethical dilemma: are medical expenditures for drugs to treat health effects of smoking (which would allow the smoker to continue tobacco use) appropriate? There was lack of clarity about the term ''chemoprevention'' and how it was supposed to work, and some participants simply did not believe that this approach would be effective. One participant reflected some general sentiments when he said, ''It just doesn't sound good''.

Distraction from population based approaches
Participants from the public health community argued that harm reduction strategies were risky because they would concentrate on the relatively small proportion of smokers that were extremely dependent smokers rather than the broad population of smokers, who should be encouraged to become successful quitters. By providing benefit to a small subgroup we would be unlikely to see improvements in health outcomes for the whole population of smokers.

Budget allocation
Focus group members were asked to allocate a programmatic budget and then a research budget to the broad areas of prevention, cessation, and harm reduction. There was basic agreement across focus group types. Focus groups recommended 50% of programmatic budgets go to prevention, 30% to cessation, and 20% to harm reduction. They recommended that 40% of research funding go to prevention, 30% to cessation, and 25% to harm reduction (table 3).

Group differences and group process
In general the tenor toward harm reduction was more negative at the beginning of each focus group than at the end. Moderators had the impression that participants were learning new information about harm reduction strategies through the group discussion. There were few distinctive patterns in comments from the policy, treatment, and education groups but moderators felt the policy group participants were the most critical of harm reduction.

DISCUSSION
Community opinion leaders in these focus groups offer several interesting insights regarding harm reduction strategies. Most participants were not familiar with the technical definition of tobacco harm reduction that was used in the IOM report. Rather, they defined harm reduction broadly as any intervention that might reduce the health risks of tobacco products. Although encouraged to discuss strategies that would allow continued use of tobacco products, but with lower morbidity and mortality, there was a preference for a general definition of harm reduction. Although many harm reduction strategies were considered viable, the methods considered to have the most potential impact were those that are most familiar and known to work—that is, smoking bans, FDA regulation, and taxation. Modifications to tobacco products that reduce toxin exposure were viewed sceptically. Cigarette reduction and long term use of NRT were considered to be potentially beneficial, but mostly as means to achieve abstinence. Providing research shows harm reduction is effective, there was potential interest in incorporating some of the harm reduction approaches in the continuum of tobacco control options.

There are several limitations to these data. Participants represented a purposeful or non-random sample and the data are not intended to project to a larger population. Focus group results are intended, rather, to help understand the concepts and thought processes of target audiences. Another limitation is that participants may have felt pressure by other participants or supposed views of the moderators to support particular ideas. To minimise this bias, the moderators reminded participants that all views are honoured and valued. The broad scope of the discussion and negative views noted speaks against this potential effect. The researchers' interest in harm reduction may have biased our interpretation of the data, although our views to date are neither positive nor negative, because of a lack of conclusive evidence. Finally, because of variation in group dynamics and time constraints across the nine sessions, occasionally questions were skipped or allotted only limited time, thereby curtailing discussion.

Conduct of these focus groups led the investigators to conclude that the term ''harm reduction'', as used by research scientists in the field, does not effectively communicate specific strategies to the tobacco control community. This suggests the term might be even more confusing to the general public. Alternative, specific, descriptive language should be used to distinguish different tobacco control strategies.[15]

It is of interest that moderators perceived a change in opinion over the course of the focus group period. We observed that many concepts were new to some participants

Table 3 Harm reduction focus groups: allocation of budget for programmes and research by type of group

Type of group	% Program budget Median (range)			% Research budget Median (range)		
	Prevention	Cessation	Harm reduction	Prevention	Cessation	Harm reduction
Policy (n = 17)	50 (20–75)	30 (20–70)	20 (0–30)	40 (10–60)	40 (15–50)	25 (10–50)
Treatment (n = 13)	50 (20–70)	40 (20–79)	20 (0–60)	40 (0–50)	40 (25–100)	25 (0–40)
School (n = 17)	60 (0–80)	20 (0–75)	20 (0–100)	50 (0–75)	25 (0–40)	30 (0–60)
Overall (n = 47)	50	30	20	40	30	25

Because values are medians, percentages allocated to programmes do not sum to 100%.

What this paper adds

Harm reduction approaches to tobacco use are controversial because the feasibility of prolonged reduction and health benefits of these strategies have not been conclusively demonstrated. Definition of an appropriate niche for harm reduction will be needed, however, if these strategies are found to reduce health effects from tobacco. This study showed that community tobacco control leaders agreed that this is a promising approach for some smokers, endorsed public policy approaches to harm reduction, but were sceptical about product modification and prolonged use of nicotine replacement therapy as means to reduce harm.

and were impressed that specific strategies, such as product modification, were considered differently by community leaders than by scientists. Scientific evidence may not be sufficient to convince the public that harm reduction approaches are effective. It is also curious that budget allocations for harm reduction appeared more supportive than the attitudes expressed. This is likely to represent acknowledgement of the need for evidence to support or reject this approach.

In many respects the views presented about harm reduction during these focus groups are similar to those of scientists in this field—that is, modified tobacco products are considered to be least likely to produce any significant reduction in harm.[13] Use of long term medicinal nicotine may be most likely to lead to reduced risk for mortality and mortality. There is also consensus that research challenges need to be addressed before recommending this approach.[16] Additionally, focus group participants and the IOM report concluded that harm reduction should be only considered in the context of prevention and cessation, and regulation of tobacco or tobacco-like products is necessary to more fully protect the public health.

ACKNOWLEDGEMENTS

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