

2006 Iowa Health Care Provider Survey on Smoking
Report

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OVERVIEW of KEY FINDINGS

This study examined Iowa health care providers' knowledge of Quitline Iowa and the fax referral program. In addition, providers were asked how they address smoking cessation (use of the 5 As) with their patients. Five specific groups of health care providers were surveyed: dentists, nurse practitioners, pharmacists, physician assistants and physicians. Mail surveys were sent to 3000 providers, and the overall response rate was 38% (**Pages 4-8**).

Familiarity with, and Use of, Quitline Iowa and the Fax Referral Program (Pages 9-10, Table 3)

- Overall, 24.7% of respondents had heard of Quitline Iowa, and female health care providers in Iowa were more aware of Quitline Iowa than were male providers (33.4% of females v. 21.5% of males). Nurse practitioners (NPs) were the most likely of all groups to report that they had heard of Quitline Iowa (39.2%) and pharmacists were the least likely (17.4%).
- Of all health care providers who had heard of Quitline Iowa, 32.5% were familiar with the fax referral program. Dentists and NPs were the most likely to report familiarity with the fax referral program (43.5% and 42.6% respectively) and pharmacists were the least likely of all groups to report familiarity with the fax referral program (7.1%).
- Among those who had heard of Quitline Iowa and were familiar with the fax referral program, 20.7% reported that they had actually used the program to refer a patient. NPs were the most likely to report using the fax referral system to refer patients to Quitline Iowa (45.0%) and pharmacists were the least likely (0.0%).

Reasons for Not Referring Patients to Cessation Programs (Page 11, Table 4)

- Lack of awareness regarding available programs was the most prevalent reason health care providers reported for not referring patients for smoking cessation assistance (61.2%).
- Lack of knowledge regarding program quality was the second most frequently stated reason by all health care providers (29.6%), followed by a lack of time to set up a referral (17.3%).

Preferred Formats for Educational Material on Smoking Cessation and/or Quitline Iowa (Pages 12-13, Figures 1, 2)

- Print materials were the most preferred format for receiving information about smoking cessation and/or information about Quitline Iowa. Overall, 70.5% of health care providers preferred to receive educational materials in print format, ranging from 61.6% of pharmacists to 85.6% of physician assistants. CD-ROM (29.2%) and DVD (24.8%) were chosen as a second option for receiving information overall.
- Real-time web broadcasts were the least preferred choice across most professional groups. In-person work-site visits, state-wide or local meetings or conferences and VHS tapes were also widely unpopular choices. None of these formats received more than 6.3% of responses.

Use of the 5 As by Provider Type (Pages 14-15, Table 5)

- Overall, 71.3% of health care providers reported asking their patients about tobacco use, 66.7% reported advising their smoking patients to quit, 55.2% reported assessing their patients' willingness to make a quit attempt, 48.2 reported assisting their patients who were willing to quit and 7.5% consistently reported arranging follow-up contact.
- Approximately three-quarters of physicians and NPs (75.2% and 75.9%) respectively believed that they were asking all patients about tobacco use, advising all users to quit, and assessing their willingness to quit.
- All professional groups reported very low rates of arranging follow-up for patients within one week of the patient's quit attempt (no group reported over 13.7%).
- Pharmacists were the least likely of all groups to report performing any of the steps outlined in the Clinical Practice Guideline for Treating Tobacco Use and Dependence. Only 9.2% of pharmacists reported asking all of their patients if they smoked or used tobacco, 7.8% reported strongly advising their smoking patients to quit, 6.4% reported assessing their patients' willingness to make a quit attempt and assisting patients who were willing to quit and only 0.7% reported arranging follow-up contact with their patients who made a quit attempt.

Recommendations (Page 16)

- Efforts should be concentrated on promoting the existence of Quitline Iowa and the fax referral program through print material to significantly raise the awareness level among Iowa health care practitioners.
- All providers should continually be encouraged to follow the modified 5 As minimally. This includes asking every patient about tobacco use at every visit, advising every tobacco user to quit and referring those who are ready to quit to quitlines, websites or local cessation programs.
- Iowa health care providers need to be educated in regards to the discrepancy between provider and patient perceptions of tobacco use interventions.
- Providers should be trained on implementing the modified 5 A's , and using the Quitline Iowa fax referral program.

PURPOSE and METHODOLOGY

Purpose

This study examined Iowa health care providers' knowledge of Quitline Iowa and the fax referral program. In addition, providers were asked how they address smoking cessation (use of the 5 As) with their patients. Five specific groups of health care providers who were licensed and currently practicing in the state of Iowa were surveyed (dentists, nurse practitioners, pharmacists, physician assistants and physicians). The goals of this study were to:

- Assess Iowa health care providers' familiarity with Quitline Iowa and Quitline Iowa's fax referral for smoking cessation program
- Assess Iowa health care providers' patterns of patient referral to smoking cessation programs (including Quitline Iowa's fax referral program)
- Assess how Iowa health care providers prefer to receive educational materials on smoking cessation.
- Assess Iowa health care providers' adherence to the Clinical Practice Guideline for Treating Tobacco Use and Dependence (Fiore, Bailey, Cohen, Dorfman, Goldstein, Gritz, et al., 2000).

Methods

The survey and a letter of introduction were mailed to a representative sample of Iowa health care providers in the summer of 2006. A reminder postcard was sent to non-respondents approximately three weeks after the initial mailing. A second paper copy of the survey was mailed to non-respondents three weeks later, or six weeks after the initial survey. All providers had the option of completing the survey on paper or online. This study was approved by the University of Iowa human subjects review board.

Sample

Lists of all licensed Iowa health care providers were obtained from the Iowa Medical Society, the Iowa Board of Dental Examiners, the Iowa Board of Pharmacy Examiners, the Iowa Board of Nursing, and the Iowa Physician Assistant Society. A stratified random sample representing medicine, nursing, dentistry and pharmacy was selected, including 1400 physicians, 500 dentists, 500 pharmacists, 300 nurse practitioners and 300 physician assistants (3000 total practitioners).

The survey investigated tobacco use treatment practices of each provider and their demographic information. The first part of the survey was based on the clinical practice guideline (Fiore et al., 2000), and included information regarding cessation referrals. The second part of the survey inquired about practitioner familiarity with Quitline Iowa and Quitline Iowa's fax referral program, and the final part requested demographic and background information including practice characteristics, year of degree completion, and smoking status.

Data Analysis

Frequencies, percentages and cross tabulations were computed for all survey variables using SPSS statistical software (SPSS for Windows, version 13.0, SPSS Inc., Chicago, IL). Fisher's exact tests and chi-square analyses were run on selected variables in order to determine significant relationships. *P*-values less than 0.05 were considered significant.

Professional titles are abbreviated as follows:

- Dentists – DE
- Nurse practitioners – NP
- Pharmacists – RX
- Physician assistants – PA
- Physicians – MD/DO

RESULTS and FINDINGS

Results

Response rates

Three thousand surveys were mailed initially. Of these, 127 were deemed invalid for one of the following reasons: incorrect address, or recipient not currently seeing patients, no longer practicing, retired, deceased, or not in Iowa. Of 2,873 valid surveys, 1,086 were returned for analysis. Nine hundred and eighty-one individuals (90.3%) returned mail surveys, and 105 individuals (9.7%) completed the web survey. The overall response rate was 38%. Response rates varied among professions as follows (absolute number followed by percent within profession):

- 433 physicians (30.9%)
- 161 pharmacists (32.2%)
- 253 dentists (50.6%)
- 120 nurse practitioners (40.0%)
- 119 physician assistants (39.7%)

Non-respondents

The non-respondents among dentists, pharmacists and physicians came from larger counties than those who did respond. Physician assistants (PAs) who did not respond were more likely to be male than female. Comparison between non-respondents and respondents was limited due to a lack of comparable information available for the data sets.

Demographics

Gender

Overall, 55.1% males and 44.9% females responded to the survey. Specifically, the majority of nurse practitioners and physician assistants who responded were female (97% and 80% respectively). Fifty-seven percent of pharmacists and 31% of physicians who responded were female. Only 18% of dentists who responded were female.

Years in practice

The median length of practice for all practitioners was 15 years. Dentists had been practicing the longest (median length of practice for dentists was 24.0 years), followed by pharmacists (16.5 years), physicians (18.0 years), physician assistants (9.0 years), and finally nurse practitioners (7.0 years).

Hours per week in direct patient contact

Overall, health care providers (physicians, dentists, nurse practitioners, physician assistants and pharmacists) had 36 hours of patient contact per week (see Table 1). For pharmacists, patient contact was in the form of hours worked in a pharmacy. Dentists reported the least median hours of patient contact at 34 hours per week and NPs reported the most median hours of patient contact at 55 hours per week. The reported hours were similar to the literature regarding work practices of dentists, physicians and PAs (American Academy of Family Physicians, 2005; Cullinan, 2002; Gilchrist, McCord, Schrop, King, McCormick & Oprandi, et al., 2005; Gottschalk & Flocke, 2005; Grzybicki, Sullivan, Oppy, Bethke & Raab, 2002; Tu & Ginsburg, 2006) but no comparative information was found for NPs or pharmacists.

Number of patients seen per average day

All clinical health care providers considered together saw a median number of 20 patients per day (see Table 1). Nurse practitioners reported seeing the fewest patients per day (15.5) with all other groups reporting equal medians. In this case, the reported numbers were similar to the literature regarding work practices of all dentists, nurse practitioners, physicians and physician assistants (AAFP, 2005; Cullinan, 2002; Gilchrist, et al., 2005; Grzybicki et al., 2002; NPA, 2004; Pulcini & Vampola, 2002).

Table 1: Patient Contact

	How many hours per week do you see patients?*	How many patients do you see in the average day?*
ALL	36 hours/ week	20 patients/day
DE	34 hours/ week	20 patients/day
NP	55 hours/ week	15.5 patients/day
MD/DO	40 hours/ week	20 patients/day
PA	36 hours/ week	20 patients/day
RX	40 hours/week**	N/A

*Median

**How many hours/week do you work in a pharmacy?

Specialty and type of practice

The most frequently reported work location for all clinical providers was in private practice. The majority of pharmacists reported working in community settings (65.5%) including traditional independent pharmacies, chains and food stores. Approximately half of all nurse practitioners, physician assistants and physicians reported working as family practitioners, and 79.1% of dentists reported working as general practitioners.

Smoking status

Overall, current smoking among this group of providers was low, with only 3.2% reporting either daily or occasional smoking (see Table 2). Pharmacists had the highest percentage of current (daily or occasional) smoking at 6.3%, while nurse practitioners had the lowest at 0.9%.

Table 2: Smoking Status by Profession

	Smoking Status		
	Never smokers	Current smokers (Daily or Occasional)	Ex-smokers
ALL	78.4%	3.2%	18.5%
MD/DO	82.9%	2.8%	15.0%
DE	78.3%	4.0%	17.7%
PA	77.0%	3.5%	19.5%
RX	72.0%	6.3%	21.7%
NP	71.6%	0.9%	27.6%

Familiarity with Quitline Iowa and the Fax Referral Program

Respondents who have heard of Quitline Iowa

About one-quarter (24.7%) of all respondents had heard of Quitline Iowa (see Table 3). Female health care providers in Iowa were more aware of Quitline Iowa than were male providers; overall, 21.5% of males and 33.4% of females had heard of Quitline Iowa. Nurse practitioners were the most likely of all groups to report that they had heard of Quitline Iowa (39.2%) and pharmacists were the least likely (17.4%).

Respondents who were familiar with the fax referral program

Of all health care providers who had heard of Quitline Iowa, 32.5% said they were familiar with the fax referral program (see Table 3). Dentists and NPs were the most likely to report familiarity with the fax referral program (43.5% and 42.6% respectively) and pharmacists were the least likely of all groups to report familiarity with the fax referral program (7.1%).

Respondents who have referred a patient to Quitline Iowa using the fax referral program

Among practitioners who had heard of Quitline Iowa and were familiar with the fax referral program, 20.7% reported that they had actually used the program to refer a patient (see Table 3). NPs were the most likely to report using the fax referral system to refer patients to Quitline Iowa (45.0%) and pharmacists were the least likely (0.0%). Female health care providers were more likely than males to report referring patients to Quitline Iowa using the fax referral program (34.1% and 6.7% respectively). This may be due to the high rate of NPs who reported referring patients using the fax referral program; 97% of the NPs who answered this survey were women.

Respondents who have referred a patient to Quitline Iowa by any method

Of all health care providers who had heard of Quitline Iowa, 41.4% had referred a patient to Quitline Iowa. NPs were the most likely to report that they had referred a patient to Quitline Iowa by any method (59.6%). Pharmacists and dentists were the least likely to report that they had referred a patients to Quitline Iowa, with dentists reporting a slightly lower percent (26.1%) than pharmacists (32.1%).

Table 3: Familiarity with Quitline Iowa and the Fax Referral Program

	ALL	DE	NP	RX	PA	MD/DO
Have you heard of Quitline Iowa?	(268/1086) 24.7%	(69/253) 27.3%	(47/120) 39.2%	(28/161) 17.4%	(32/119) 26.9%	(92/433) 21.1%
If you have heard of Quitline Iowa, are you familiar with the fax referral program?	(87/268) 32.5%	(30/69) 43.5%	(20/47) 42.6%	(2/28) 7.1%	(6/32) 18.8%	(29/92) 31.5%
If you are familiar with Quitline Iowa and the fax referral program, have you ever referred a patient to Quitline Iowa using the fax referral program?	(18/87) 20.7%	(3/30) 10.0%	(9/20) 45.0%	(0/2) 0.0%	(2/6) 33.3%	(4/29) 13.8%

Reasons for Not Referring Patients for Smoking Cessation Assistance

A majority (61.2%) of health care providers lacked awareness regarding available smoking cessation programs. This was the most prevalent reason health care providers reported for not referring patients for smoking cessation assistance. A lack of knowledge regarding program quality was the second most frequently stated reason by all health care providers (29.6%). Pharmacists who did not refer patients were more likely than other providers to indicate lack of time to set up a referral as a reason (25.6%), followed by PAs and dentists (17.2% and 16.9%, respectively). Physicians also indicated that they preferred to provide counseling on-site (15.9%), and 15.5% of PAs stated that lack of reimbursement affected their decision to refer patients to smoking cessation counseling. See Table 4 for more information regarding reasons for not referring patients for cessation assistance.

Table 4: Reasons for Not Making Referrals for Smoking Cessation

	Overall (n=490)	DE (n=136)	NP (n=36)	RX (n=78)	PA (n=58)	MD/DO (n=182)
Lack of awareness of available programs	61.2%	55.9%	75.0%	52.6%	79.3%	65.9%
Lack of knowledge of program quality	29.6%	37.5%	22.2%	28.2%	25.9%	26.9%
Lack of time to set up a referral	13.9%	16.9%	5.6%	25.6%	17.2%	7.1%
Prefer to provide counseling on-site	9.4%	2.9%	8.3%	7.7%	6.9%	15.9%
Lack of faith in effectiveness of cessation programs	8.2%	12.5%	2.8%	2.6%	5.2%	9.3%
Lack of faith in the effectiveness of referrals	5.7%	11.0%	0.0%	2.6%	1.7%	5.5%
Lack of reimbursement	8.8%	5.1%	13.9%	3.8%	15.5%	10.4%
Other reason	22.2%	19.9%	13.9%	20.5%	15.5%	20.9%

Preferred Formatting for Educational Material on Smoking Cessation

Print materials were the most preferred format for receiving information about smoking cessation. Overall, 70.5% of health care providers chose to receive educational materials in print format (ranging from 61.6% of pharmacists to 85.6% of PAs). CD-ROM and DVD were chosen as a second option for receiving information by all respondents; 30.1% to 34.8% of physicians, PAs, NPs and pharmacists selected CD-ROM as a second choice while 33.2% of dentists chose DVD (see Figure 1).

The live and real-time educational choices were unpopular formats across professional groups. This included in-person visits to the worksite, real-time web broadcasts, and state-wide or local meetings and/or conferences. Web-based training modules received low to moderate receptivity among NPs (18.8%), pharmacists (18.1%) and PAs (19.8%), and even lower receptivity among and physicians (14.8%) and dentists (10%). Likewise, VHS format information was unpopular with all five groups, perhaps due to the emergence of more modern video formats such as DVD (see Figure 2).

Figure 1: Most Requested Educational Material Formats

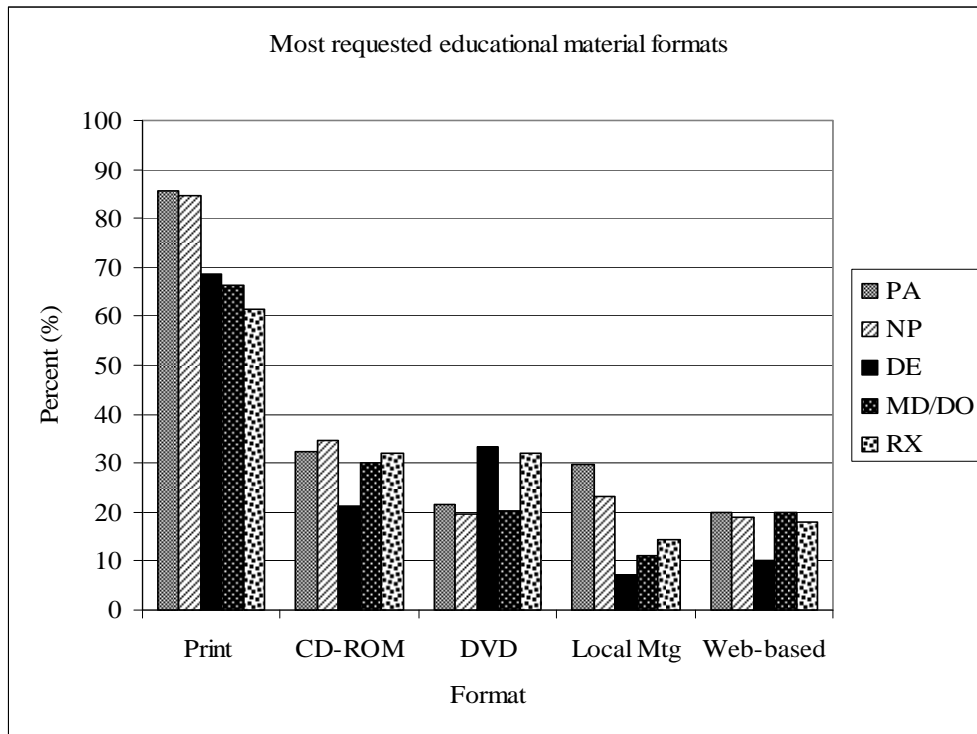
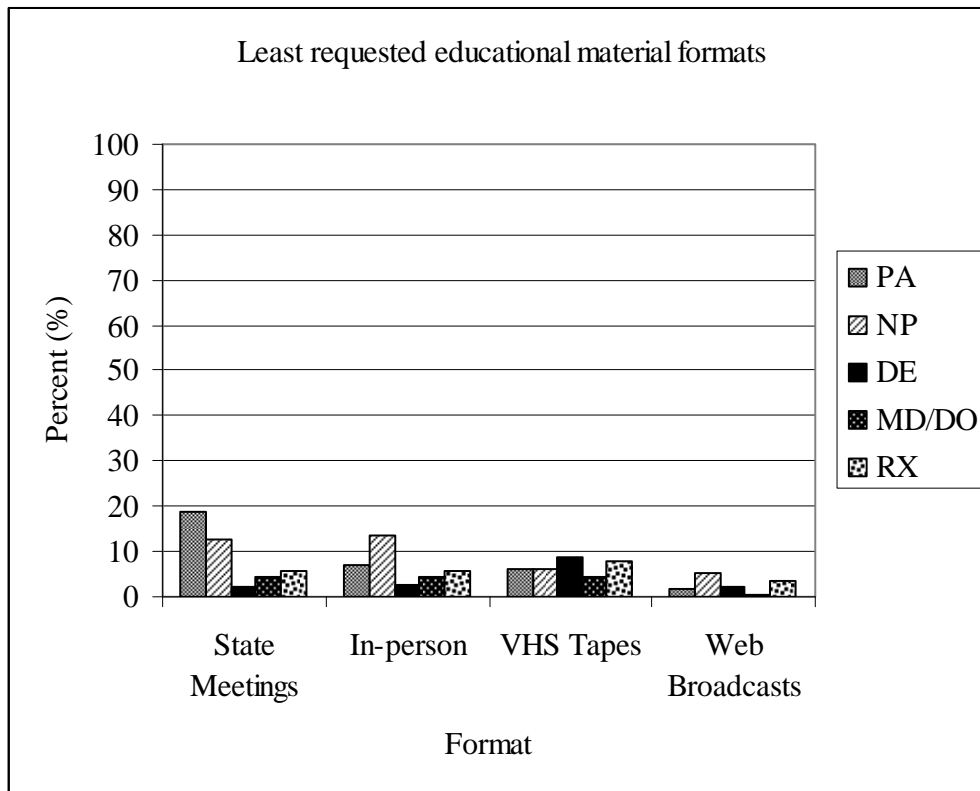


Figure 2: Least Requested Educational Materials Formats



Use of Each Step of the 5 As by Profession

Perceived rates of adherence to each step of the clinical guideline were calculated based on providers' adherence to the prior step (see Table 5).

Adherence to Clinical Practice Guideline

The majority of physicians, nurse practitioners and physician assistants believe that they are performing the first four steps of the 5 As (asking, advising, assessing and assisting), but not the step of arranging follow-up. Physicians and nurse practitioners were the most likely to report consistently performing all steps as prescribed by the clinical guideline. Pharmacists were the least likely of all groups to report performing any of the steps. All professional groups had very low rates of providers who reported arranging follow-up within one week (see Table 5).

Table 5: Perceived Use of Each Step of the 5 As by Profession

	Overall (N=1016)	DE (N=229)	NP (N=117)	RX (N=141)	PA (N=114)	MD/DO (N=415)
Do you ASK all of your patients if they smoke or use tobacco?	71.3%	65.9%	86.3%	9.2%	83.3%	87.7%
For your patients who smoke, do you strongly ADVISE them to quit?	66.7%	55.0%	85.5%	7.8%	78.9%	84.6%
For your patients who smoke, do you ASSESS their willingness to make a quit attempt?	55.2%	32.3%	75.2%	6.4%	65.8%	75.9%
For the patient willing to make a quit attempt, do you use counseling and/or pharmacotherapy (ASSIST) to help him or her quit?	48.2%	15.3%	70.1%	6.4%	62.3%	70.6%
Do you ARRANGE follow-up contact, in person or by telephone, within the first week after the quit date?	7.5%	2.6%	13.7%	0.7%	8.8%	10.4%

Health Care Provider Report and Patient Perception

Physicians, physician assistants and nurse practitioners

The vast majority of physicians, physician assistants and nurse practitioners reported asking all of their patients about tobacco use, advising smoking patients to quit and assessing their patients' willingness to quit smoking. Most of these clinicians also reported assisting their patients who were willing to make a quit attempt with counseling and/or pharmacotherapy.

According to the Iowa 2004 Adult Tobacco Use Survey, 61.2% of adults who had seen a health professional within the previous 12 months reported being asked whether or not they smoked by a doctor, nurse, or other health care professional. By comparison, in the Iowa Health Care Provider Survey, 72.8% of providers indicated asking patients about their smoking status. Of current smokers, 53% said they were advised to quit smoking by a doctor, nurse, or other health care professional. By comparison, in the Iowa Health Care Provider Survey, 70.1% of providers indicated advising their smoking patients to quit. Of those patients who were advised to quit smoking, 27.6% were prescribed or recommended pharmacotherapy by a doctor, nurse, or other health professional, 11.4% reported referral to (or the suggestion of) a smoking cessation class, program, quitline or counseling, and 28.5% said that they were provided with written or other self-help materials. By comparison, in the Iowa Health Care Provider Survey, 57.8% of providers indicated assisting their patients who were ready to make a quit attempt with counseling and/or pharmacotherapy. This incongruence could be a result of a response bias or more likely a belief on the health care providers' part that they are performing these services.

Dentists

According to the Iowa 2004 Adult Tobacco Use Survey, only 35.7% of adults who had seen a dental health professional in the previous 12 months reported being asked whether or not they smoked by a dentist or a dental hygienist. By comparison, in the Iowa Health Care Provider Survey, 65.9% of dentists indicated asking patients about their smoking status. Only 26.9% of those who had seen a dental health professional in the previous 12 months reported being advised to quit smoking by a dentist or a dental hygienist. By comparison, in the Iowa Health Care Provider Survey, 55.0% of dentists indicated advising their smoking patients to quit.

RECOMMENDATIONS

Increased efforts should be concentrated on promoting the existence of Quitline Iowa and the fax referral program using print materials to significantly raise the awareness level among practitioners. Health care providers should be trained, using printed materials, regarding the effectiveness of referral for smoking cessation, proactive telephone counseling for smoking cessation and how to incorporate the Quitline Iowa fax referral system into everyday practice. All providers should continually be encouraged to follow at least the modified 5 As (ADHA, 2006). This includes asking every patient about tobacco use at every visit, advising every tobacco user to quit, and referring those who are ready to quit to quitlines, local cessation programs or websites.

Findings from the two surveys, the Health Care Provider Survey on Smoking and the Iowa Adult Tobacco Use Survey, should be shared with providers to educate them regarding differences between provider and patient perceptions. Training should be provided to ensure that the guidelines are understood and integrated into all types of health care practices. Pharmacists in particular should be encouraged to provide tobacco cessation assistance due to their position within the community that allows contact with individuals who may not have a regular source of health care.

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