



George Mason University
Center for Climate Change Communication



KEY FINDINGS

NATIONAL MEDICAL ASSOCIATION

PHYSICIAN SURVEY

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A SURVEY OF NATIONAL MEDICAL ASSOCIATION PHYSICIANS

Overview

The following report contains the findings of a survey conducted in two phases in March and May of 2014 among members of the National Medical Association (NMA), the association of African American physicians. The survey was conducted in collaboration with George Mason University. The purpose of the survey was to assess physicians' experience with the health effects of climate change and their thoughts about how to address this issue. In March, attendees of the 2014 NMA policy conference were asked to complete a paper version of the survey. In May, all regular NMA members for whom the association had email addresses were asked to complete a web-based version of the survey. A total of 284 members from 33 states responded to one or the other administration of the survey, for a total response rate of 30%.

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Key Findings

NMA physicians believe climate change is happening.

Over 97% of respondents said that climate change is happening, and 62% said that it is mostly or entirely caused by human activity. The great majority of respondents said that they had personally experienced climate change outside their role as a health professional (88%); almost half (48%) reported having had a moderate amount or great deal of personal experience with climate change.

NMA physicians report that climate change is affecting the health of Americans and their own patients.

Nearly all survey respondents think climate change is relevant to direct patient care (88%) and that it has harmed people in their own city or county over the last decade (86%). Most respondents also report that climate change is affecting the health of *their own patients* a great deal or a moderate amount (61%).

A wide range of health effects from climate change is affecting patients in the present time.

The most common health effects that respondents have witnessed among their patients are injuries due to severe weather (88%), air pollution-related increases in severity of chronic disease (88%), increased allergic symptoms (80%), and heat related effects (75%). Other conditions affecting patients include vector-borne infections (Lyme Disease or West Nile Virus) (58%), diarrhea from food/waterborne agents of infection (56%), and mental health problems related to these health issues (40%). Across all categories of health effects, *more physicians* (2% - 16%) think their patients will be harmed in the next 10-20 years.

Certain groups are more vulnerable to the health effects of climate change than others.

A large majority of respondents reported that *certain specific groups* of people will be disproportionately affected by climate change, including people with chronic diseases (88%), people living near or below the poverty line (86%), young children ages 0-4 (83%), and adults over age 60 (80%).

NMA physicians want to educate and advocate about climate change and health.

A majority of respondents said that physicians have a responsibility to bring the health effects of climate change to the attention of their patients (75%) and the public (71%), that teaching about climate change and its associated health impacts should be integrated into medical education (80%), and that medical societies should have a significant advocacy role on climate and health (76%).

Respondents feel that their own actions can make a difference in responding to climate change.

A large majority of survey participants believe that actions they can take in their personal and professional lives can contribute to effective action on climate change (78%). Most (81%) also believe that physicians should have a leadership role in encouraging offices, clinics, and hospitals to be as environmentally sustainable as possible. Most also feel the following resources would be helpful: policy statements from medical professional associations (81%), continuing medical education (89%), and patient education materials (86%).

NMA physicians feel the U.S. should take significant steps to reduce the impacts of climate change and protect people from its harmful health effects.

Nearly all respondents feel the U.S. should make a large scale effort (88%) to protect people from current effects of climate change even if it has large economic costs, or a medium scale effort to protect people even if it has medium economic costs. Similarly, they believe the U.S. should make a large scale effort (55%) or a medium scale effort (37%) to prevent future impacts of climate change.

Detailed Survey Responses

SECTION A

Climate change refers to the idea that the world's average temperature has been increasing over the past 150 years, may be increasing more in the future, and that the world's climate is changing as a result.

What do you think: Do you think that climate change is happening?

(Those that answered YES were then asked) How sure are you that climate change is happening?

(Those that answered NO were then asked) How sure are you that climate change is not happening?

Response Options	Percent Response	Response Number (N)
Yes	97%	271
Extremely Sure	31%	93
Very Sure	35%	107
Somewhat Sure	20%	59
Not at all Sure	2%	5
Don't Know	2%	5
No	1%	3
Not at all Sure	0.7%	2
Somewhat Sure	0%	0
Very Sure	0%	0
Extremely Sure	0.3%	1
TOTAL¹	100%	279

¹ Total N (279) represents the total number of responses to the Question: Do you think climate change is happening? 271 people responded "yes", 5 "don't know", 3 "no". There were seven respondents who answered the question "yes", but did not answer the subsequent question about how sure they are that climate change is or is not happening.

Do you think climate change over the past 150 years is...

Response Options	Percent Response	Response Number (N)
Caused entirely by human activities	4%	10
Caused mostly by human activities	58%	161
Caused about equally by human activities and natural changes in the environment	34%	96
Caused mostly by natural changes in the environment	3%	8
Caused entirely by natural changes in the environment	1%	2
None of the above because climate change isn't happening	0.5%	1
TOTAL	100%	278

To the best of your knowledge, what percentage of climate scientists has concluded that human-caused climate change is occurring?

Response Options	Percent Response	Response Number (N)
0-20%	2%	6
21-40%	12%	33
41-60%	17%	46
61-80%	24%	67
81-100%	29%	81
Don't Know	17%	46
TOTAL	100%	279

How knowledgeable do you feel about the association between climate change and health impacts?

Response Options	Percent Response	Response Number (N)
Very knowledgeable	6%	16
Moderately knowledgeable	18%	51
Modestly knowledgeable	48%	132
Not at all knowledgeable	28%	79
TOTAL	100%	278

How much, if at all, do you think climate change has harmed people in your city or county over the past decade?

Response Options	Percent Response	Response Number (N)
A great deal	20%	56
A moderate amount	46%	129
Only a little	20%	56
Not at all	2%	5
Don't know	12%	32
TOTAL	100%	278

SECTION B

How much, if at all, do you think climate change is relevant to direct patient care?

Response Options	Percent Response	Response Number (N)
A great deal	24%	67
A moderate amount	42%	116
Only a little	22%	61
Not at all	4%	11
Don't know	8%	21
TOTAL	100%	276

How much, if at all, do you think climate change is affecting the health of your patients?

Response Options	Percent Response	Response Number (N)
A great deal	18%	49
A moderate amount	43%	118
Only a little	18%	50
Not at all	3%	8
Don't know	10%	28
I don't currently see patients ²	8%	23
TOTAL	100%	276

² Those who indicated that they did not currently see patients were skipped ahead to Question C3: "My primary place of work does an effective job minimizing its use of fossil-fuels (e.g., conserving energy/water, recycling equipment, etc.)".

In which of the following ways, if any, do you think your patients are currently being affected by climate change, or might be affected in the next 10-20 years?³

Response Options	Percent Response			Response Number (N)
	Yes	Don't Know	No	TOTAL
People are currently being affected				
Heat-related effects (e.g., heatstroke, heat exhaustion, cardio-respiratory illness)	75%	14%	11%	236
Vectorborne infection (e.g. Lyme, West Nile, Dengue Fever, Malaria)	58%	26%	16%	232
Diarrhea from food/waterborne illnesses (e.g. Salmonella, Giardia, Cryptosporidia) following downpours or floods	56%	22%	22%	238
Injuries due to severe storms, floods, droughts, fires	88%	8%	5%	240
Air pollution related increases in severity of illness (e.g., asthma, COPD, pneumonia, cardiovascular disease)	88%	10%	3%	242
Increased care for allergic sensitization and symptoms of exposure to plants or mold (visits to office/ER for asthma/allergic symptoms)	80%	13%	8%	240
Mental health problems due to the above	40%	41%	19%	235
People will be affected in the next 10-20 years				
Heat-related effects (e.g., heatstroke, heat exhaustion, cardio-respiratory illness)	88%	9%	3%	221
Vectorborne infection (e.g. Lyme, West Nile, Dengue Fever, Malaria)	70%	21%	9%	222
Diarrhea from food/waterborne illnesses (e.g. Salmonella, Giardia, Cryptosporidia) following downpours or floods	67%	23%	10%	222
Injuries due to severe storms, floods, droughts, fires	90%	9%	1%	219
Air pollution related increases in severity of illness (e.g., asthma, COPD, pneumonia, cardiovascular disease)	91%	8%	2%	221
Increased care for allergic sensitization and symptoms of exposure to plants/mold (office/ER visits for asthma/allergy)	86%	11%	4%	222
Mental health problems due to the above	56%	35%	9%	225

³ The percentage responses for each question are based on the number of individuals who answered each question.

SECTION C

Which of the following, if any, are barriers that prevent you from addressing climate change-related health issues with patients?

Response Options	Percent Response					Response Number (N)
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL
Climate change is not occurring	1%	4%	9%	29%	57%	164
My patients would not be interested or knowledgeable enough about climate impacts to discuss this issue	6%	21%	33%	33%	7%	238
Lack of time	27%	42%	18%	9%	4%	239
Lack of knowledge regarding how to approach the issue with my patients	26%	45%	14%	10%	5%	240
Addressing these issues with my patients will not make much difference in their overall health	5%	17%	27%	40%	11%	240
This is not a billable activity	16%	23%	30%	15%	16%	164
Other barriers (please specify)	15%	15%	58%	4%	9%	55

*See Appendix for open-ended responses to "Other barriers"

The primary hospital that I admit to is well prepared for climate-related events (e.g., disasters/ emergencies, extreme weather events, increase in certain diseases, etc.)

Response Options	Percent Response	Response Number (N)
Strongly agree	15%	34
Agree	35%	82
Neutral	30%	71
Disagree	15%	36
Strongly disagree	5%	12
TOTAL	100%	235

My primary place of work does an effective job minimizing its use of fossil-fuels (e.g., conserving energy/water, recycling equipment, etc.)

Response Options	Percent Response	Response Number (N)
Strongly agree	6%	16
Agree	23%	58
Neutral	30%	77
Disagree	34%	88
Strongly disagree	7%	17
TOTAL	100%	256

Teaching about climate change and its association with health impacts should be integrated into medical education.

Response Options	Percent Response	Response Number (N)
Strongly agree	30%	78
Agree	50%	129
Neutral	12%	31
Disagree	5%	14
Strongly disagree	3%	8
TOTAL	100%	260

My medical societies should have a significant advocacy role in relation to climate change and health.

Response Options	Percent Response	Response Number (N)
Strongly agree	28%	71
Agree	48%	125
Neutral	19%	48
Disagree	5%	12
Strongly disagree	1%	2
TOTAL	100%	258

I feel that actions I take in my personal and/or professional life can contribute to effective action on climate change.

Response Options	Percent Response	Response Number (N)
Strongly agree	25%	65
Agree	53%	137
Neutral	17%	43
Disagree	6%	15
Strongly disagree	0%	0
TOTAL	100%	260

Physicians have a responsibility to bring the health effects of climate change to the attention of their patients.

Response Options	Percent Response	Response Number (N)
Strongly agree	24%	63
Agree	51%	132
Neutral	20%	53
Disagree	5%	13
Strongly disagree	0%	0
TOTAL	100%	261

Physicians have a responsibility to bring the health effects of climate change to the attention of the public.⁴

Response Options	Percent Response	Response Number (N)
Strongly agree	25%	43
Agree	46%	78
Neutral	23%	39
Disagree	5%	9
Strongly disagree	0.5%	1
TOTAL	100%	170

⁴ This question was only asked on the member survey and not on the leadership survey.

Physicians should have a leadership role in encouraging offices, clinics, hospitals to be as environmentally sustainable as possible.

Response Options	Percent Response	Response Number (N)
Strongly agree	34%	88
Agree	47%	121
Neutral	16%	42
Disagree	3%	8
Strongly disagree	0.5%	1
TOTAL	100%	260

Which of the following resources, if any, would be helpful to you?
Policy statements provided by my professional associations.

Response Options	Percent Response	Response Number (N)
Strongly agree	34%	89
Agree	48%	127
Neutral	14%	37
Disagree	3%	8
Strongly disagree	2%	5
TOTAL	100%	266

Which of the following resources, if any, would be helpful to you?
Continuing medical education (CME) on climate change and health.

Response Options	Percent Response	Response Number (N)
Strongly agree	41%	110
Agree	48%	127
Neutral	8%	21
Disagree	3%	7
Strongly disagree	0.5%	1
TOTAL	100%	266

Which of the following resources, if any, would be helpful to you?
Patient education materials.

Response Options	Percent Response	Response Number (N)
Strongly agree	41%	109
Agree	45%	119
Neutral	11%	30
Disagree	3%	7
Strongly disagree	0.5%	1
TOTAL	100%	266

Which of the following resources, if any, would be helpful to you?
Other resources (please specify)*:

Response Options	Percent Response	Response Number (N)
Strongly agree	23%	10
Agree	18%	8
Neutral	52%	23
Disagree	2%	1
Strongly disagree	5%	2
TOTAL	100%	44

*See Appendix for open-ended responses to "Other resources"

Which, if any, of the following groups will disproportionately experience any negative health effects from climate change? [check all that apply]

Response Options	Percent Response		Response Number (N)
	Yes	No	TOTAL
Young children ages 0 to 4	83%	17%	271
Older children ages 5 to 17	42%	58%	271
Young adults ages 18 to 39	27%	73%	271
Middle aged adults ages 40 to 60	25%	75%	271
Older adults ages 60+	80%	20%	271
People with chronic diseases	88%	12%	271
People living near or below the poverty line	86%	14%	271
People of color	73%	27%	271

SECTION D

Outside your role as a health professional, to what degree have you personally experienced climate change?

Response Options	Percent Response	Response Number (N)
A great deal	10%	27
A moderate amount	38%	100
Only a little	40%	107
Not at all	6%	15
Don't know	7%	18
TOTAL	100%	267

How big of an effort should the U.S. make to reduce the potential impacts of climate change (prevention)?

Response Options	Percent Response	Response Number (N)
A large-scale effort, even if it has large economic costs	55%	146
A medium-scale effort, even if it has moderate economic costs	38%	100
A small-scale effort, even if it has small economic costs	7%	18
No effort	1%	3
TOTAL	100%	267

How big of an effort should the U.S. make to protect people from the potential harmful health effects caused by climate change (preparedness)?

Response Options	Percent Response	Response Number (N)
A large-scale effort, even if it has large economic costs	56%	149
A medium-scale effort, even if it has moderate economic costs	37%	98
A small-scale effort, even if it has small economic costs	7%	19
No effort	1%	2
TOTAL	100%	268

SECTION E

What is your primary work setting?

Response Options	Percent Response	Response Number (N)
Outpatient (clinical)	49%	126
Hospital (clinical)	29%	74
Non-clinical Administrative	8%	20
Other clinical	8%	21
Other non-clinical	6%	16
Retired	.5%	1
TOTAL	100%	258

Which is, or if retired was, your primary work location?

Response Options	Percent Response	Response Number (N)
Urban	69%	167
Suburban	22%	52
Rural	5%	12
Multiple	4%	10
TOTAL	100%	241

In which U.S. State do you (or did you) work?

Response Options	Percent Response	Response Number (N)
Alabama	1%	3
Arizona	1%	2
California	8%	20
Colorado	1%	3
Connecticut	0.5%	1
Delaware	1%	2
District of Columbia	6%	14
Florida	4%	10
Georgia	10%	26
Hawaii	0.5%	1
Illinois	3%	7
Indiana	2%	5
Kansas	0.5%	1
Kentucky	0.5%	1
Louisiana	4%	9
Maryland	10%	24
Massachusetts	4%	9
Michigan	3%	8
Minnesota	1%	2
Mississippi	1%	2
Missouri	3%	8
Nevada	1%	3
New Jersey	2%	5
New Mexico	0.5%	1
New York	7%	18
North Carolina	4%	9
Ohio	4%	9
Pennsylvania	2%	6
South Carolina	0.5%	1
Tennessee	3%	7
Texas	7%	17
Virginia	4%	9
Wisconsin	2%	6
TOTAL	100%	249

Which of the following degrees or certifications do you hold? [check all that apply]

Response Options	Percent Response	Response Number (N)
M.D.	81%	215
Ph. D.	2%	4
PA / CRNP	0.5%	1
Master's Degree	1%	2
Other clinical degree	1%	3
Other non-clinical degree	2%	4
RN	0.5%	1
Multiple degrees ⁵	13%	35
TOTAL	100%	265

Which best describes your medical training?

Response Options	Percent Response	Response Number (N)
Internal Medicine / Family Medicine	29%	74
Pediatrics	14%	36
OB/Gyn	11%	28
Surgery	5%	12
Other Specialty	28%	71
Other Practice	4%	9
Multiple	10%	26
TOTAL	100%	256

If you are in clinical practice, what proportion of your patient population is non-white?

Response Options	Percent Response	Response Number (N)
Less than 25%	21%	49
26% - 50%	26%	60
51% - 75%	21%	49
More than 75%	31%	71
TOTAL	100%	229

⁵ 33 out of 35 respondents who hold multiple degrees indicated that one of the degrees was an M.D.

If you are in clinical practice, what proportion of your patient population is covered by the following insurance arrangements?

Response Options	Percent Response		Response Number (N)
	Less than 50%	More than 50%	TOTAL
Self-Pay	99%	1%	126
Medicare	83%	17%	134
Medicaid	76%	24%	137
Private	72%	29%	137
Other	68%	32%	25

What is your gender?

Response Options	Percent Response	Response Number (N)
Female	62%	163
Male	40%	97
Female and Male	0.5%	1
Prefer not to answer	1%	2
TOTAL	100%	263

What is your age?

Response Options	Percent Response	Response Number (N)
18-30	5%	14
31-50	38%	100
51-65	43%	111
66 or older	14%	36
TOTAL	100%	261

Please specify your ethnicity:

Response Options	Percent Response	Response Number (N)
Hispanic or Latino/a	1%	3
Not Hispanic or Latino/a	99%	252
TOTAL	100%	255

Please specify your race [check all that apply]:

Response Options	Percent Response	Response Number (N)
American Indian or Alaskan Native	1%	3
Asian	0%	0
Black or African American	95%	250
Native Hawaiian or other Pacific Islander	0%	0
White	0%	0
Multiple / Bi-racial	3%	9
TOTAL	100%	262

Would you like to assist in education or advocacy focused on climate and health in your community?

Response Options	Percent Response	Response Number (N)
Yes	33%	85
No	67%	172
TOTAL	100%	257

Survey Group (not a response option)

Response Options	Percent Response	Response Number (N)
Leadership Survey March 2014	36%	101
Member Survey May 2014	64%	183
TOTAL	100%	284

Method

The survey was conducted in March and May 2014 by George Mason University (GMU), and the National Medical Association (NMA), in order to assess physician's beliefs about and experiences with climate change, including whether they were witnessing any health effects to their own patients. Paper surveys were completed by the attendees of the 16th National Colloquium on African American Health, which is a policy conference attended by national, state, and local NMA leaders in March of 2014. Then, all 999 regular members of the NMA for which NMA has email addresses were emailed an online version of the survey in May of 2014.

Design and Data Collection Procedures

Sample

Respondents were members of the National Medical Association. As a historically Black medical association, the NMA is primarily made of up African American physicians. This is reflected in the race and ethnicity of the survey respondents (95% African American). Age of participants centered around 31-65, with those under 30 making up only 5% of the sample, and those over 65 making up 15%. More women than men completed the survey, but their distribution (60% vs. 40%) is typical for public survey response. Most respondents are physicians and hold an M.D. (81%) or an M.D. plus another degree (13%).

The majority of respondents work in urban or suburban areas, with only 5% working in rural areas and another 4% working in a mix of these areas. However, 33 U.S. states are represented, ranging in population size, geography, and political leaning. The physicians care for a mix of populations (although their patients are disproportionately non-white), and patients with a mix of insurance types.

Contact Procedures & Methodology

For the first survey round, paper surveys were distributed during a session of the colloquium. The survey was introduced by a member of the NMA, outlining the importance of gaining physicians' perspectives on climate change and health. Respondents were entered into a raffle to win an iPad mini. Respondents who attended the colloquium were presented with the preliminary findings of the survey two days later.

The second round of surveys was distributed via email and given in an online survey format. An initial email announcing the importance of the survey was distributed to all members with emails on record. Three reminders went out to those who had not yet responded over the course of two weeks. Respondents were told that as an incentive for taking the survey, they would be entered into a drawing to win 1) a 2015 NMA membership, 2) a free hotel stay for the annual meeting and 3) two gift certificates. For individuals who previously had taken the survey, there

was an option on the consent page that took them immediately to the end of the survey, so they would not take the survey a second time.

In both surveys, participants were told the purpose of the study (assessing their attitudes about how climate change is related to health) before taking the survey. In Survey 1, this information was announced by an NMA member. In Survey 2, this information was written in the email with the survey link. In both cases, the informed consent statement also informed participants of the purpose of the study.

In both surveys, participants were asked whether they were interested in receiving more information or volunteering to become involved with education or advocacy. If so, they were asked to provide their contact information. In Survey 1, this information was included on a separate, final page of the survey, which was removed from the rest of the survey prior to data entry. In Survey 2, participants who were interested in this option clicked on a link that directed them to a separate website where their contact information was recorded separately from their survey responses.

Analysis

Descriptive statistics were run on all data collected during the March and May 2014 surveys. No weighting was used to account for differences between the sample population and the general NMA population. Respondents gave some personal information within the survey that is not reported. Open-ended comments have been edited for minor grammar and spelling corrections, and some comments which did not directly address the question have been removed from this report.

Response Rate

The number of returned surveys at the Leadership meeting in March 2014 was 101 out of 139 surveys distributed to those attending the event. The online survey went to 999 members; 67 bounced back because of incorrect email addresses. There were 101 respondents who completed the survey during the March meeting, and an additional 200 who accessed the survey online. Seventeen online responses were dropped because respondents chose not to participate or indicated that they had already taken the survey in March at the Leadership meeting. The total number of responses for the two surveys was 284, for a total response rate of 30%. Since every survey participant did not answer every question; total responses are presented for each question.

Appendix

Anecdotes about Patients from Physician Respondents (Selected)

Please describe if you have a relevant anecdote about a patient who has experienced one of these impacts [open-ended question; responses were organized into general themes by the researchers]:

- Asthma:**
- I have (seen) a marked increase in the number of my patients who have asthma exacerbations
 - I have many patients with asthma induced by weather changes, and this has been increasing over the last few years.
 - With the current fluctuations in weather, we have seen quite a few asthma exacerbations. People are used to having the weather be one way so they can predict when they may have trouble with their illness, but now they are finding it more difficult to do so.
- Heat:**
- Extreme weather (heat and dry climate) (is) causing heat strokes and brush fires; with subsequent smog worsen(ing) Asthma symptoms.
 - With the aging of the population, the incidence of heat strokes has risen in my practice area.
- Allergy:**
- I have more patients with asthma and allergies coming in with flares earlier and earlier in the year because pollen is produced earlier and earlier.
 - I practice as an allergist in metropolitan city, and patients state their allergic symptoms have increased in the past 5 years.
 - I have a patient who has environmental allergies that are usually treated with antihistamines. They now have to use steroid inhalers and bronchodilators at times.
 - I have had several patients with worsening or new onset allergic rhinitis.
 - I have noted an increasing number of patients with seasonal allergies
 - There is increased diagnosis of allergic respiratory symptoms among my patients.
 - In New Orleans there are a lot of patient's who experience severe symptoms from asthma. This was a prevalent concern since we are surrounded by two large bodies of water. However, following Katrina and it's damage, mold has become an unwelcome presence in a lot of patient's lives.
 - Increased heat and dry air cause increased blowing dust, and more upper respiratory allergy, and irritant symptoms
 - Seeing more patients with new onset seasonal allergies or worsening of seasonal allergies
- Injury:**
- My practice works with injury and the area in which I work has been affected by flooding and increased snow fall both as a consequence of climate change which has increased episodes of back injury from snow removal and water removal
- Mental Health:**
- Is our environment affecting our well-being, or are we over-diagnosing Bipolar disorders and allergies. As a Hospitalist/Laborist, I am seeing more of the above. People say when the temperature rises so do tempers. Maybe there is something to that.
 - My patient experienced atrocities during hurricane Katrina. As a result, she had PTSD and severe depression that prevented her from holding a stable job. I do believe that with climate change and global warming, we should expect more hurricanes of Katrina's severity and such resultant mental health issues.

Chronic Disease:

- PTSD from May 2010 floods and or PTSD from 2005 Katrina
- The severe weather and snow have limited patient access to the doctor. This causes acute problems to become chronic problems and therefore much more difficult to treat.
- Weather related Chronic Obstructive Pulmonary Disease (COPD) exacerbation, Cardiac Failure exacerbations, Sickle crises, asthma, Sarcoid symptoms
- My patients with COPD and asthma have had an increase in symptoms secondary to weather changes.

Barriers to Greater Physician Involvement (Selected)

Other barriers listed [open-ended question; responses were organized into general themes by the researchers]:

Need for Education:

- Access to educational brochures
- My lack of knowledge
- General knowledge of effect
- Lack of general knowledge in community

Lack of Time:

- As an Anesthesiologist I have a limited time to deal with more pressing issues
- I work in the ER

Need for Research:

- Lack of studies on health effects
- Lack of evidence based solutions

Won't Make a Difference:

- Apathy
- Patient ignorance and prejudice
- I think most patients would feel that there is little impact they would have on this problem
- Not as visible yet in my area
- Usually not relevant or useful with the exception of air quality in patients with respiratory illnesses

Other:

- Opportunity related to relevancy of the client's visit
- No ICD-9 code for billing
- Lack of reimbursement

Helpful Resources (selected)

Other resources listed [open-ended question; responses were organized into general themes by the researchers]:

Advocacy:

- Increased presence of local Professional Associations with local public health, community, religious & political organizations.
- Opportunities for interaction with political action
- Community advocacy program
- Public service announcements
- Influencing public policy
- Social media links

Funding:

- Billing and coding guide

Alternate forms of Education:

- Patient education materials made applicable to the faith based community
- Pod cast / web based activity
- Public forums
- Public meetings
- Evidence based details of health related effects and approach to therapy
- Information (general) on environmental health
- Education thru churches is most efficient to reach identifiable portion of all 3 rural major minorities: Afro, Latino, and Native Americans
- Videos
- Webinar regarding this subject