



Heart Disease and Stroke Secondary Prevention Policy Survey

**Final Report
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Background and Purpose

The North Carolina Heart Disease and Stroke Prevention Program (HDSP) focuses its efforts primarily on secondary prevention. A top priority for the branch is to encourage and facilitate environmental and policy changes that will further the goals of HDSP and improve care for heart disease and stroke in North Carolina. As a part of these efforts, from May 2004 to December 2004, the North Carolina Heart Disease and Stroke Prevention Program conducted a study of physicians and other healthcare providers at various health sites in the State of North Carolina. The study targeted a wide range of health settings including private practices, academic medical centers and community health centers. Primary care and heart disease/stroke related specialists were chosen for inclusion in the study. The purpose of the survey was to determine the existence of formal policies for secondary prevention of heart disease and stroke at health sites in North Carolina, and to identify areas where the HDSP Program could be of assistance in improving systems of care in the state.

Objectives

1. To determine whether North Carolina health sites have a formal clinical pathway or system for implementing heart disease and stroke prevention strategies.
2. To measure the usage of clinical systems for heart disease and stroke prevention, including counseling, health screenings, and referral to specialized services.
3. To measure the usage of training and assessment systems for primary care providers.
4. To measure the availability of educational materials on heart disease and stroke prevention for patients.
5. To measure the development of secondary prevention services for patients with known chronic disease.
6. To determine providers' perceived barriers to providing quality secondary prevention care to their patients.
7. To measure the availability of Automated External Defibrillators (AEDs) in North Carolina health sites, their use, and reasons for not being adopted.

Methods

This survey was conducted online from July 7th to December 9th, 2004 by the North Carolina Heart Disease and Stroke Prevention Branch. One thousand subjects were recruited by mail and phone. The subject pool was comprised of physicians and physician assistants licensed with the state's medical board.

The survey was created using the Massachusetts Department of Public Health's Health Site/Managed Care Survey for Cardiovascular Disease Prevention and Care as a framework.

That survey was conducted in 2002, and the questions spanned both primary and secondary prevention services. This survey eliminated questions that focused on primary prevention services in keeping with the organization's focus. Questions were added focusing on the availability and use of Automated External Defibrillators (AEDs) in the practices surveyed.

After development, the survey was pilot tested by a small group of providers and members of the HDSP Branch. The final survey was put online using the surveymonkey.com online tool. The online survey allowed the data to be analyzed quickly and without the need for data entry. The final version of the survey was 57 questions long in total; however, the respondent was directed through a branching system of questions depending on their responses to key questions, so the length of the survey varied by individual.

The mailing list for the survey was obtained from the North Carolina Medical Board, and contained a database of all 29,116 licensed MDs and DOs in the state. The list contained codes for self identified specialty description. The list was sorted by code, and physicians who listed primary care or heart disease and stroke related specialties as their own were kept, while those less likely to work within the area of heart disease and stroke were eliminated. The new list contained 11,881 physicians. Only the 8,979 who listed their practice or residence as being in North Carolina were kept. A simple random sample of 1,000 was selected in order to create a sample of adequate size within financial restrictions. Based on the Massachusetts study, which surveyed 800 health sites, we deemed this to be an appropriate number.

The week of July 5th, 2004, an invitation for participation was sent to the 1,000 physicians selected for the study. The notice contained the web address for the survey, as well as a confidentiality statement and information on the incentive items provided for participation. The week of July 12th, follow up phone calls began. As of December 9, 2004 we had received 305 responses. The response rate was approximately 31%.

Incentive items including JNC7 guidelines (laminated for quick reference), posters with the warning signs of stroke, pedometers, walking logs and patient education materials about stroke, blood pressure, cholesterol and smoking cessation were sent to everyone that completed the survey.

Summary of Results by Objective

To determine whether North Carolina health sites have a formal clinical pathway or system for implementing heart disease and stroke prevention strategies.

- Only 18 percent of respondents could state with certainty that their health site had a written policy or guideline statement related to the secondary prevention of heart disease and stroke. Twenty five percent answered other, listing a variety of programs such as following JNC VII guidelines.
- When sites did have a formal guideline or policy statement, these commonly included blood pressure control, smoking cessation, weight management, physical activity, lipid management and diabetes management among other factors. The guidelines or policy statements seemed fairly comprehensive, but most lacked screening for various cardiovascular conditions that could put patients at risk for heart attack or stroke.
- Incentives were infrequently used to encourage provider adherence to policies and guidelines, but almost half (47 percent) of health sites assessed provider compliance in some way.
- Only 6 percent of providers stated that they did not think any policy or system change needed to be implemented at their health site to improve secondary prevention services for cardiovascular disease, showing that there is support for initiatives around this issue.

To measure the usage of clinical systems for heart disease and stroke prevention, including counseling, health screenings, and referral to specialized services.

- A slight majority (53 percent) of respondents reported that they did not have any system in place for follow-up on desired behavior changes of patients identified as having unhealthy cardiovascular behaviors.
- Most health sites (61 percent) did not have policies for automatically referring patients with known chronic disease to specialized services for secondary prevention, but providers commonly made referrals to on and off-site programs despite the lack of formal policies.

To measure the usage of training and assessment systems for primary care providers.

- Respondents reported that providers at their health site received training in a variety of health education areas.
- In-services and professional conferences were the most common methods of provider training.
- 81 percent of health sites did not measure the number of providers giving any educational services to patients.

To measure the availability of educational materials on heart disease and stroke prevention for patients.

- Educational materials for a variety of chronic conditions and risk factors are available at most health sites.
- Health sites do not provide information on recognition of heart disease and stroke as often as they provide other types of educational materials.

To measure the development of secondary prevention services for patients with known chronic disease.

- 62 percent of health sites did not have a registry or database for any condition that puts patients at greater risk for cardiovascular disease.
- Common on-site specialty programs included diabetes self-management education, counseling by a registered dietician, cardiac rehabilitation courses, tobacco cessation counseling and physical therapists.

To determine providers' perceived barriers to providing quality secondary prevention care to their patients.

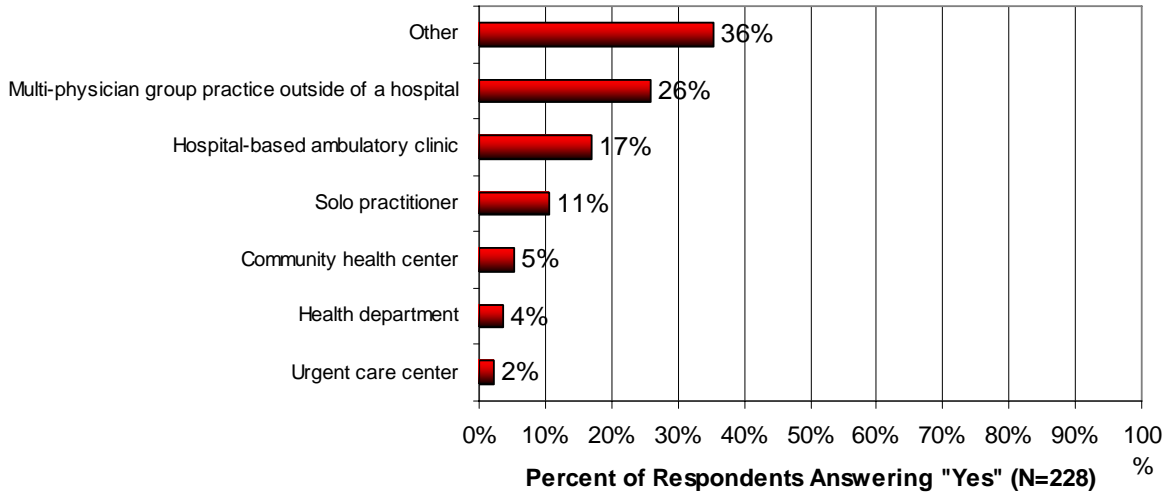
- Providers listed lack of time, lack of non-clinical providers for education, lack of patient compliance and insufficient or lack of reimbursement as large barriers in providing secondary prevention services.
- Providers least frequently cited their own knowledge or competence as a large barrier in providing educational services.

To measure the availability of Automated External Defibrillators (AEDs) in North Carolina health sites, their use, and reasons for not being adopted.

- AEDs were available at a slight majority (54 percent) of health sites examined.
- 18 percent of providers stated their AED had been used, but many were uncertain.
- Sites with an AED appear to be training providers to use it, and have systems in place for alerting trained personnel should they be needed.
- Cost was the most frequently cited reason for not purchasing an AED.

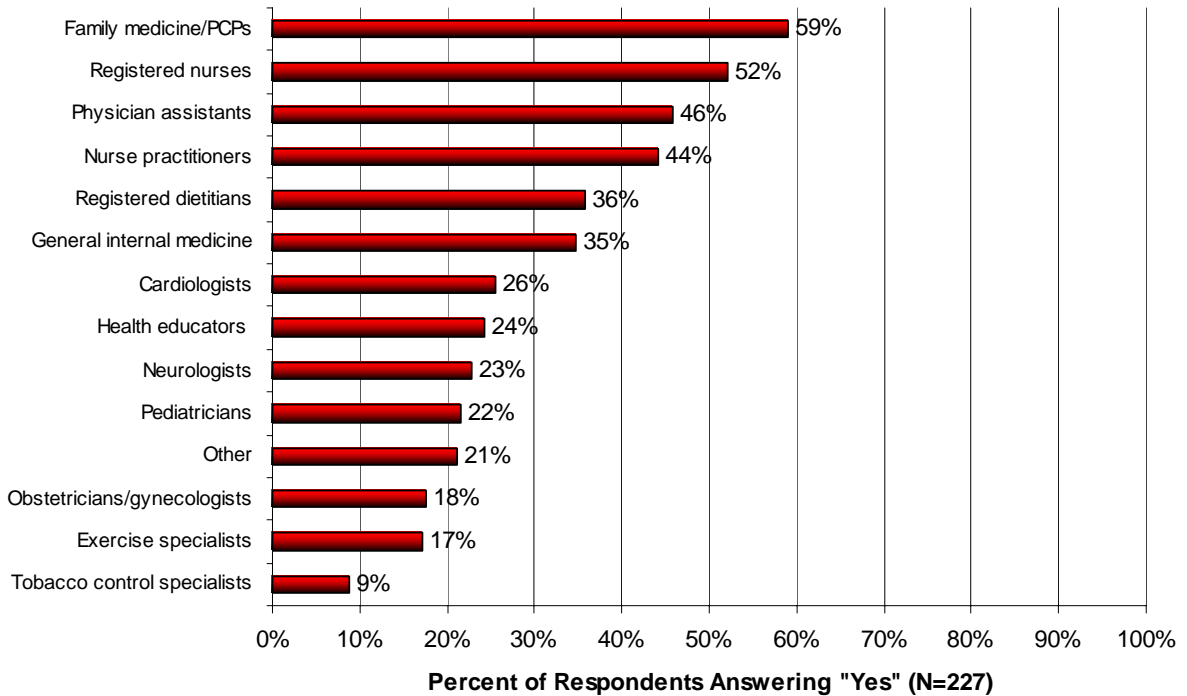
Characteristics of Respondents' Health Sites

Figure 1. Please describe your clinical health site setting.



- Respondents came from a variety of health settings.
 - Other settings listed included a large number of hospitals and emergency departments

Figure 2. Please indicate the types of providers that make up your health site group. (mark all that apply)



- A variety of provider groups were represented, but most providers at respondents' health sites were general practitioners.

Figure 3. What is the average patient load for your practice site per day?

N=216

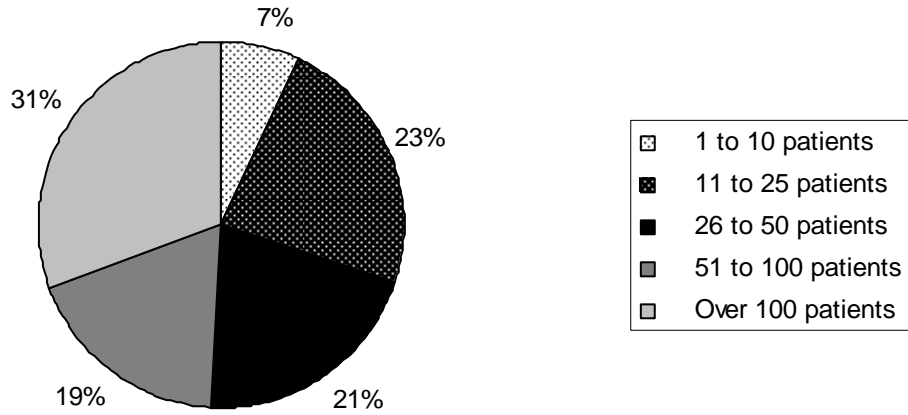


Figure 4. What is your title? (mark all that apply)

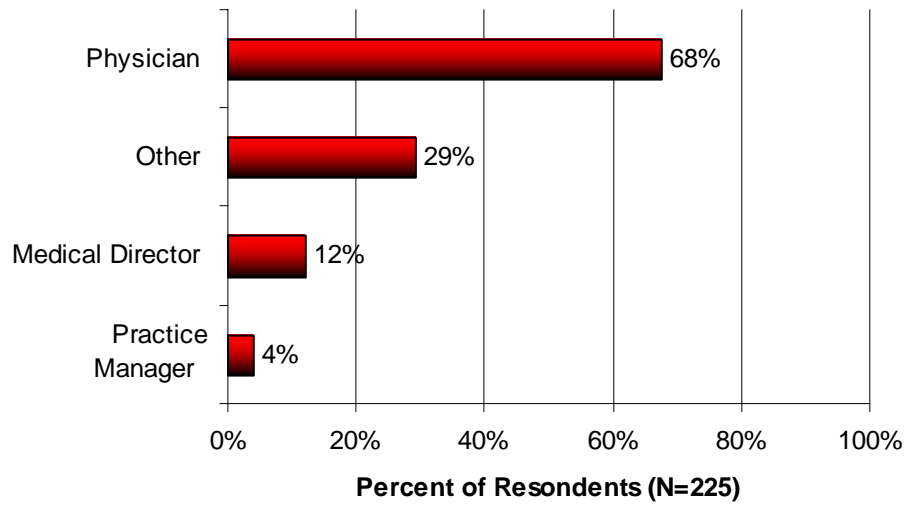


Figure 5. Please estimate the percentage of your patient population that fit the following categories.

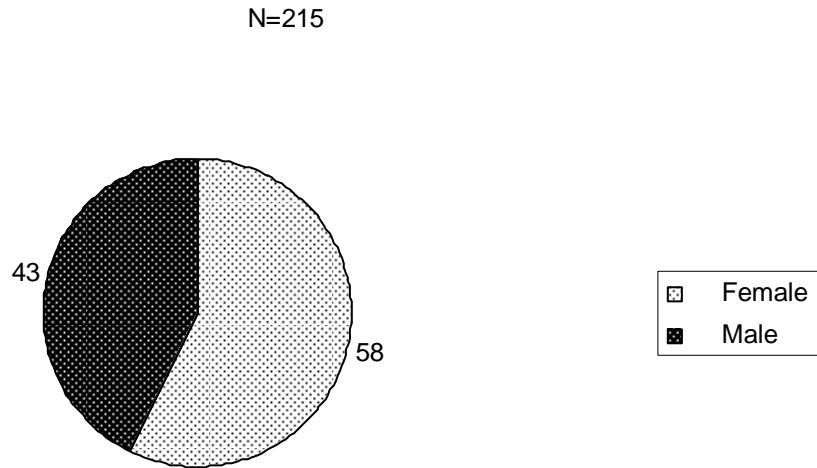


Figure 6. Please estimate the percentage of your patient population that fit the following categories.

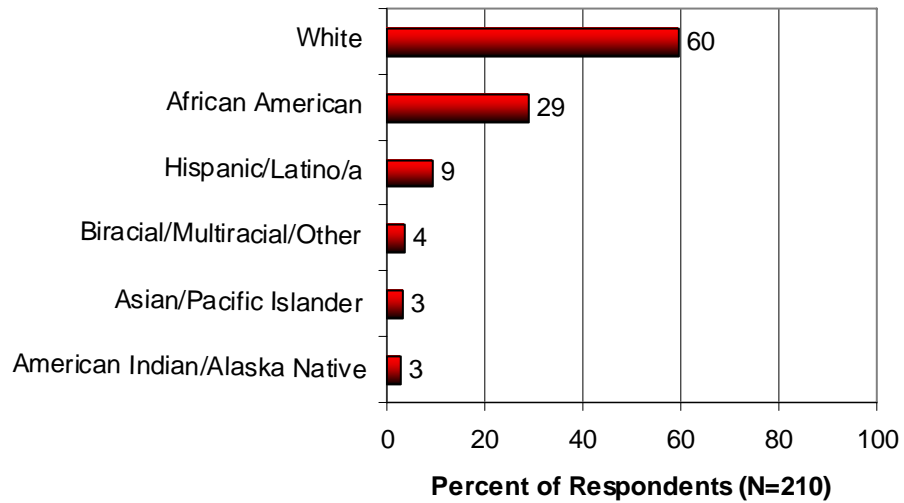


Figure 7. Please estimate the percentage of your patient population that fit the following categories.

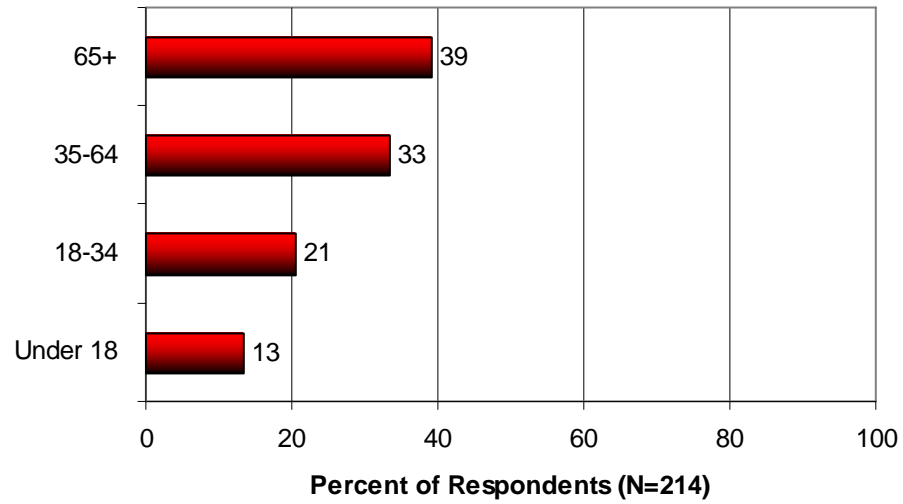
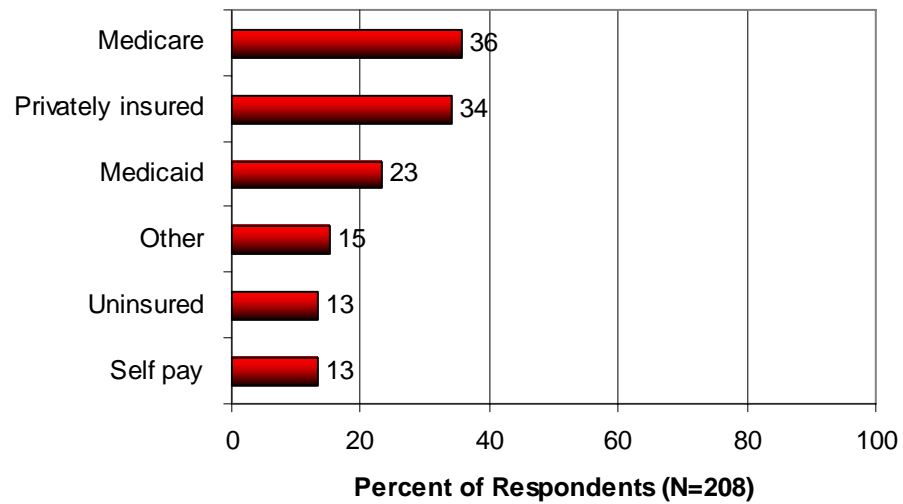


Figure 8. Please estimate what percent of your patient population fits the following insurance status categories.



Secondary Prevention Policies: Existence and Composition

Figure 9. Does your health site have a written policy statement or guideline related to secondary prevention of cardiovascular disease (e.g. JNC VII blood pressure guidelines)?

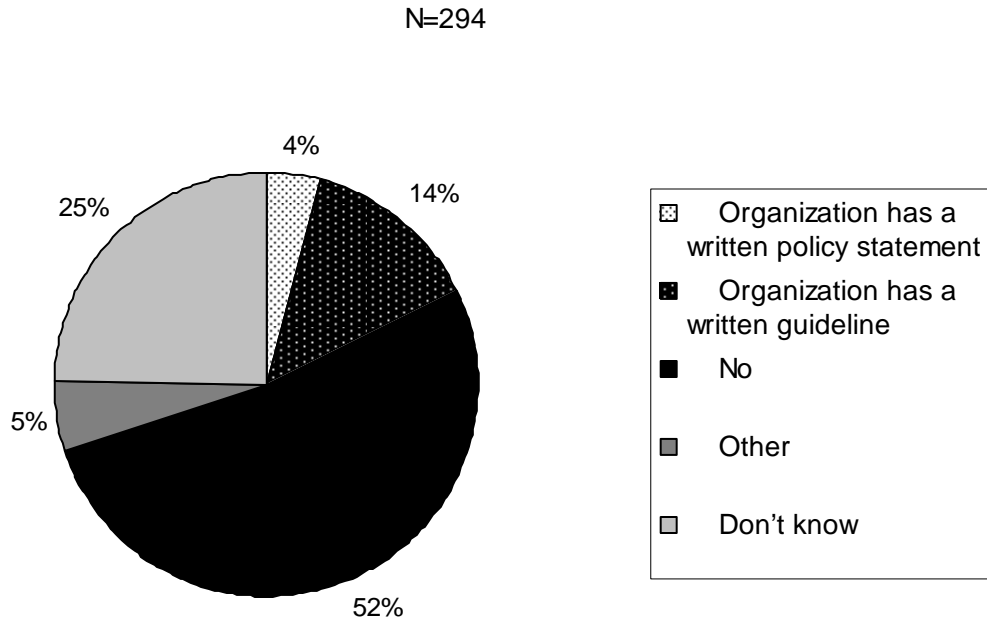
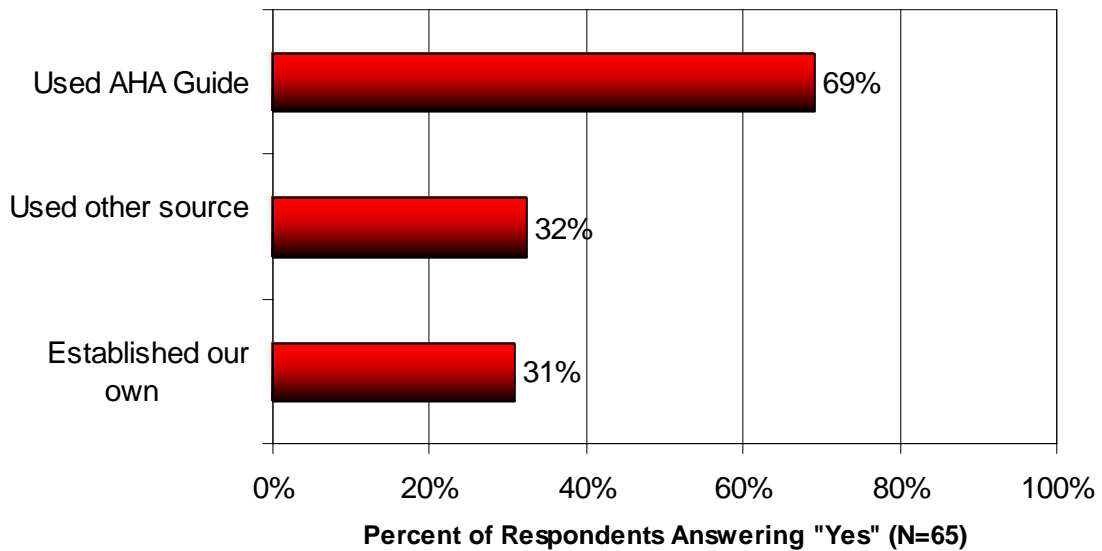


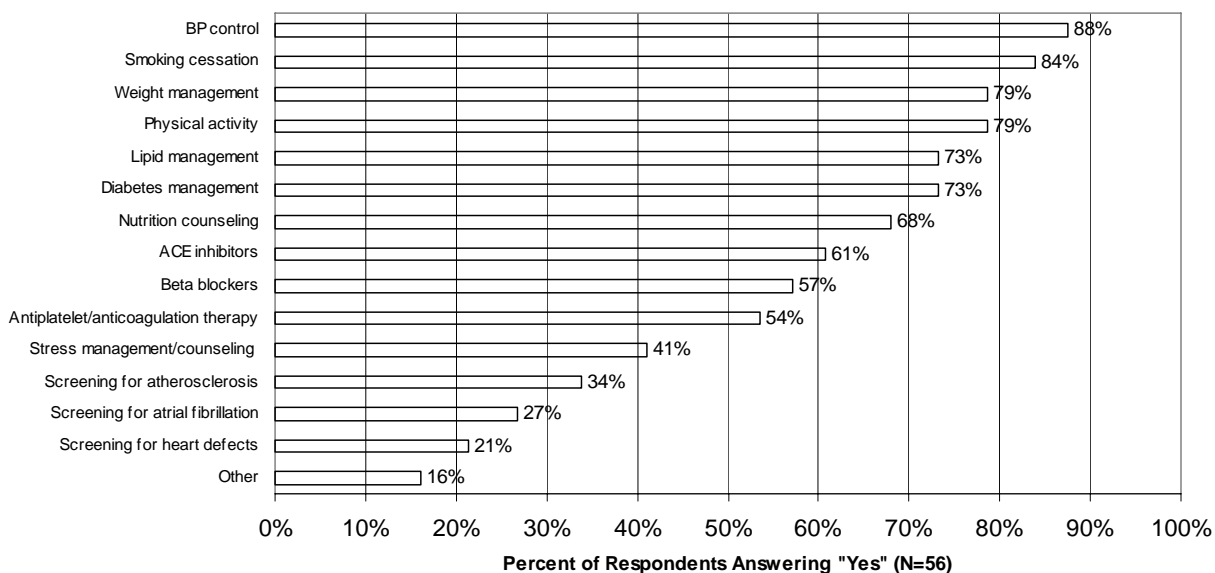
Figure 10. How was your policy statement or guideline established? (mark all that apply)



Other Sources Used for Guideline Development

1. American Diabetes Association
2. Clinical Guidelines in Family Practice, and other materials
3. e.g. NCEP, JNCVII, AHA etc
4. JNC 7
5. na
6. JNCVII* uphold and Graham Primary Care Protocol book
7. guidelines for treatment of Afib -JCAHO core measures
8. JCAHO
9. ADA
10. Latest version of the NCEP guidelines and those from ACSM
11. acc guidelines also
12. ACEP
13. NCEP ATP III, JNC 6, 7
14. AACVPR
15. Faculty agreement, basically JNCVII and ATP and ADA
16. DHHS Guidelines
17. NIH NHLBI
18. current journals

Figure 11. *What is included in your written policy statement or guideline? (mark all that are included)*



The results showed that the majority of health sites reviewed (52%), did not have a formal policy or guideline in place regarding secondary prevention of heart disease and stroke. Only 18 percent of respondents could state with certainty that their health site had a policy statement or guideline in place, with 5 percent stating they had some other system in place. The most frequently cited “other” was the JNC VII guidelines (5 of 18). Twenty five percent of respondents were unsure of their health site’s status regarding systems for secondary prevention.

- Of those respondents who cited a formal policy or guideline regarding secondary prevention of heart disease and stroke, the AHA Guide to Comprehensive Risk Reduction for Patients with Coronary and other Vascular Disease was frequently used as a source (69%), with other sources used, including JNC VII and JCAHO (see Table 1)
- Most policy statements or guidelines included guidelines for blood pressure control, smoking cessation, weight management, physical activity, lipid management, diabetes management, nutrition counseling, ACE inhibitors, Beta blockers and antiplatelet/anticoagulation therapy.
- A minority of policies or guidelines contained stipulations regarding stress management/counseling, screening for atherosclerosis and screening for heart defects.

Secondary Prevention Policies: Incentives and Assessment of Compliance

Figure 12. *Does your health site offer incentives to encourage providers to use the policy statement or guideline in their practices?*

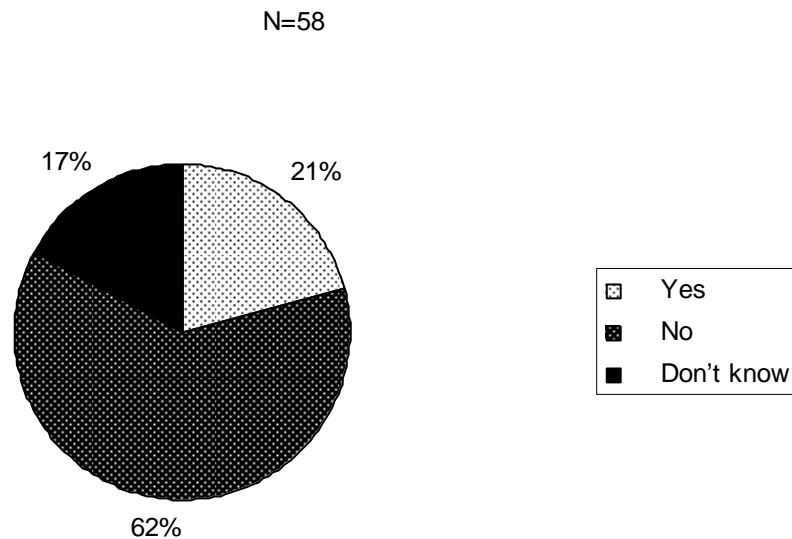


Figure 13. *Do you assess provider compliance with the policy statement or guideline?*

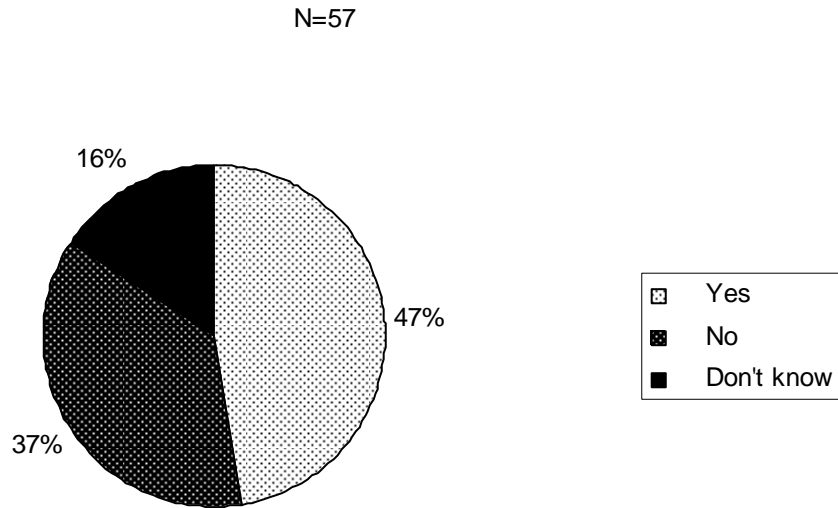


Figure 14. *If you assess compliance, how is it done? (mark all that apply)*

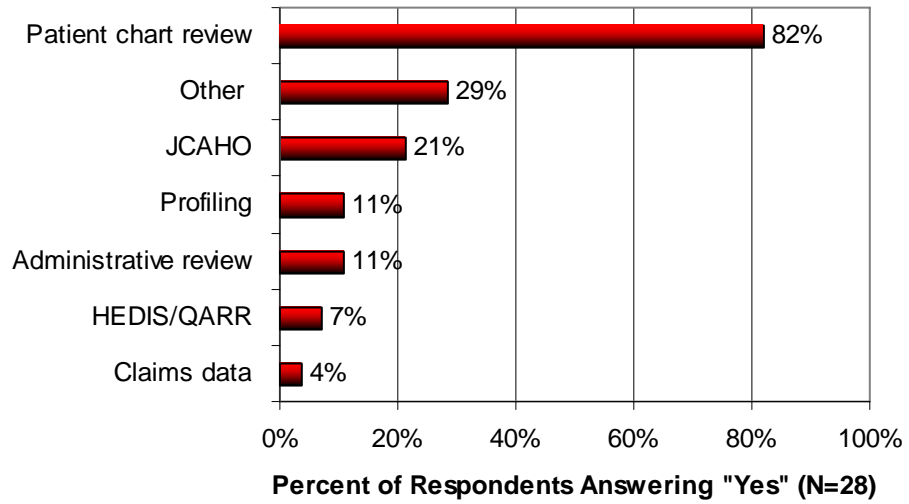
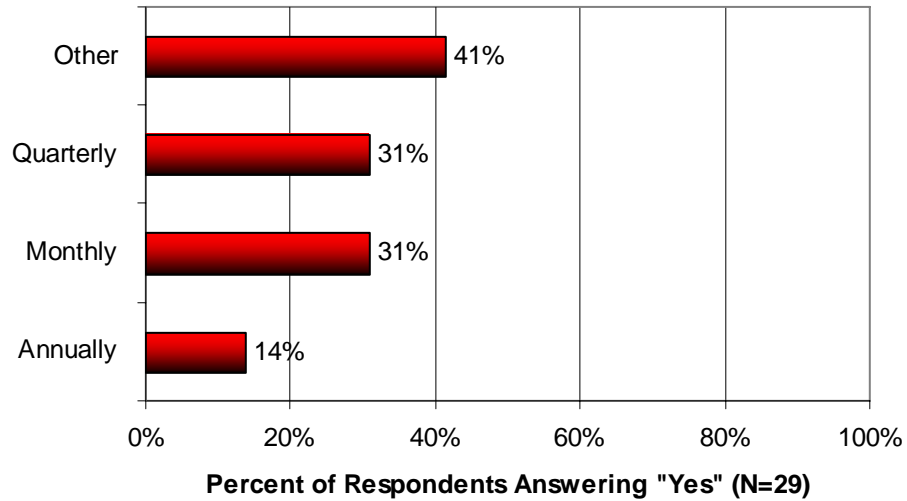


Figure 15. *How often is compliance assessed? (mark all that apply)*



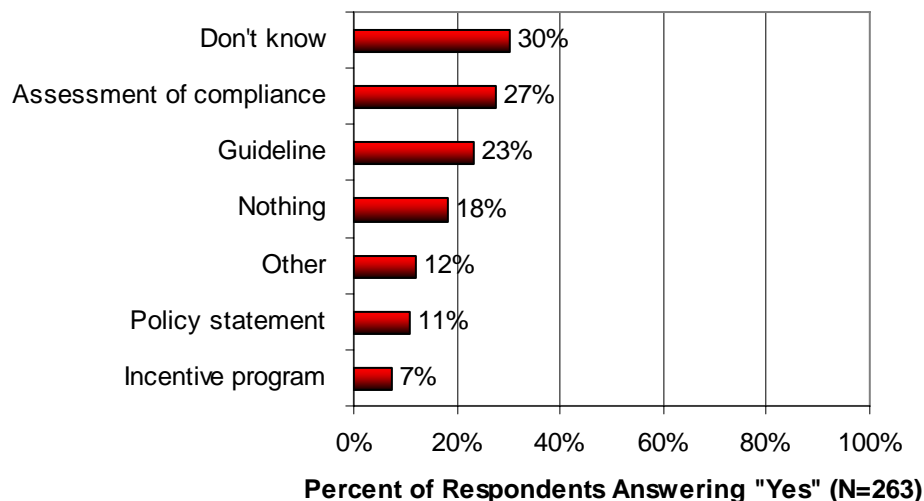
Other Time Periods for Compliance Assessment

1. We sign all charts after the FNPs see patients, such that each visit is reviewed.
2. Ad hoc
3. NA
4. compliance is assessed prospectively and data is provided the MD's quarterly
5. Daily for dietetic interns and non RD nutrition providers residents quarterly; nutrition on patient by patient basis
6. Initial, 3 mo., 6mo. 1 year, Annually thereafter weekly chart checks
7. Every 3 years
8. Variable

- The majority (62%) of health sites with formal policies or guideline statements do not offer incentives for providers to follow them or assess provider compliance.
- When provider compliance was assessed (Figure 6) the majority do so through patient chart review.
- Formal time periods for review were common, although the time period varied, but few respondents stated that reviews were done on an ad hoc basis.

Secondary Prevention Policies: Future Plans and Providers' Perception of Need

Figure 16. *What, if any, policies and/or systems to improve the secondary prevention of cardiovascular disease is your health site planning to implement in the coming one or two years? (mark all that apply)*

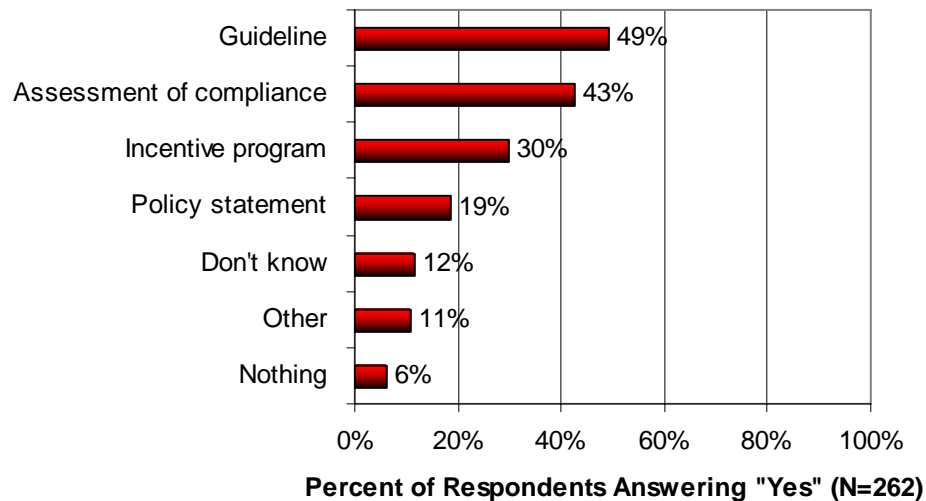


Other Responses

1. screening
2. we know what the guidelines are and use them. Why would we have a written policy about that, the JNC has already done that for us.
3. Just make sure we are continuing to stay up to date and do a great job at treating our patients.
4. hope to institute CHF flow sheet, regroup on using diabetes flow sheets, continue to participate in education of staff regards same
5. Auto-reminders in EMR for all high risk pts.
6. We are implementing EMR and hopefully will look more closely at individual physician's compliance with published guidelines and implement reminders as part of that system.
7. measurement of the PATIENTS' success (not focusing on the providers "compliance")
8. We use the national guidelines-don't need to develop new ones
9. Don't really do secondary prevention
10. I am a solo practitioner. I try to make sure each pt has an appropriate management plan for CVD in place, and that is reviewed at the time of the annual Health Care Maintenance visit, or at OV for other.
11. Updated patient information
12. teaching programs
13. Organization is a CE provider, not a healthcare provider
14. EMR Disease Management
15. chart review, and once new computer system is working well, will try to use data base to target CV dz and DM
16. cardiac rehab/employee wellness program
17. Emergency presentations of HTN and other high risk factors when in the ED

18. patient fund to assist needy patients participate in any of our programs, home based program
19. Our policy for treatment of these conditions is not in a formal written policy structure, it is written into the training curriculum for medical students, residents and dietetic interns.
20. we continue to do evidence based care. we are looking at Smart Forms for our Logician EMR. I expect there are Smart Forms related to this but have not seen them yet
21. continual triaging of individual's circumstances, risk factors, and symptoms
22. Developing stroke prevention grant with Forsyth Medical Center
23. Screening of high risk populations
24. Individual care
25. individual patient education
26. Screenings and education for the public & Interns
27. On site M&M, group consensus re: value
28. CV Prevention Center is under consideration.
29. Involved in research/programs
30. reiterate JNC 7 changes
31. Individual MD,s given responsibility for their own patients
32. Women's heart Clinic

Figure 17. *What policy or system change(s) do you think should be implemented in your health site to improve secondary prevention services for cardiovascular disease? (mark all that apply)*



Other Areas of Perceived Need

1. Cost-effective access to cholesterol screening and heart healthy physical fitness programs and restaurant menu changes.
2. We have nutritionists and some patient education materials, but we are constantly looking for better ed. materials.
3. administration support/institutional support to achieve a paradigm shift from acute care to chronic illness care model for secondary prevention for established CVD

4. EHR
5. staff education
6. EHR, which will help compliance and assessment
7. Outcomes tracking
8. I am a solo practitioner practicing as a geriatric consultant with very frail individuals; I don't need policies or incentives to provide/recommend the best possible care
9. we are aware of JNC VII but do not have a site policy
10. Don't really do secondary prevention
11. chart review using diagnosis codes from computer to identify pts who should have that management.
12. Organization is a CE provider, not a healthcare provider
13. disease management program
14. EMR Disease Management
15. site is for surgical treatment not primary care
16. chart audits,
17. we need more chart audit; Logician is being modified so we will be able to quickly query it. and when that is done we will be able to know what we are doing in aggregate
18. I don't necessarily think anything more formal is necessary in a statement or guideline - again just continual triaging and case mgt.
19. We desperately need better third party support of our efforts; Medicare continues to use 20 year old regulations to limit the number of patients who are eligible for cardiac rehabilitation and secondary prevention
20. education to clients
21. staff educations and accountability
22. individual patient education
23. CV Prevention Center
24. Guideline plus record related triggers / reminders
25. Development of a comprehensive program devoted solely to primary and secondary prevention
26. provider education
27. education through lecture, literature
28. I would like to see emr

- Health sites were planning to implement a variety of systems for secondary prevention of heart disease and stroke in the upcoming year.
 - Some providers cited other initiatives besides policy statements and guidelines.
- There was ample support from providers for guidelines and assessments of compliance, but less support for other programs.
- Providers seemed more likely to think that guidelines were needed rather than policy statements.

Secondary Prevention Education: Reminders for Providers

Figure 18. *Does your health site have a defined process or systems of prompts to remind providers to include each of the following as part of secondary cardiovascular disease prevention? (mark all that are included)*

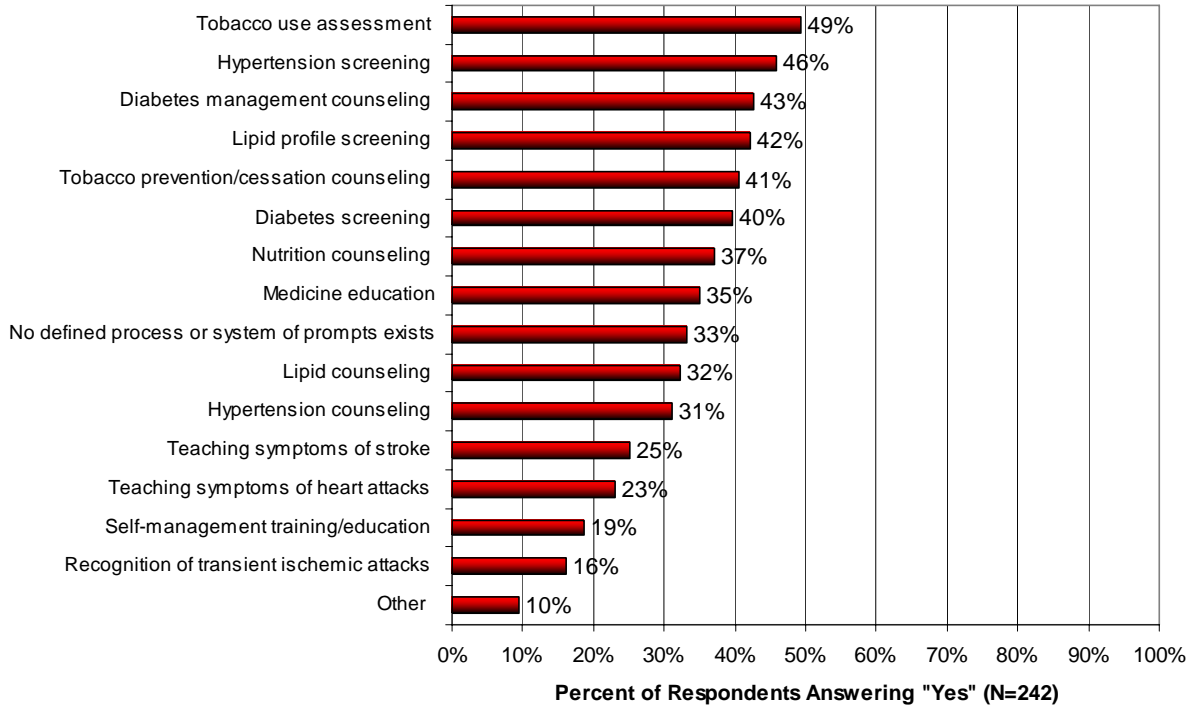
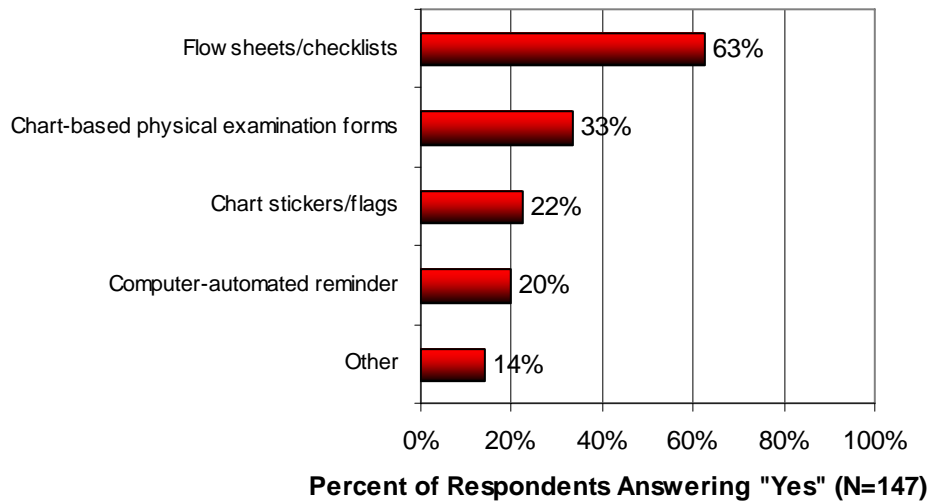


Figure 19. *If providers are given reminders for any of the services listed in the previous question, please specify the system(s) that are utilized. (mark all that apply)*



- The percentage of health sites with defined processes or systems of prompts to remind providers about parts of secondary cardiovascular disease prevention varies, but of all the factors examined none was included in a majority of health sites.
- Flowsheets and checklists were the most commonly used process for reminding providers, while computer automated systems were the least utilized.

Secondary Prevention Education: Patient Follow-up

Figure 20. *Once you identify a patient as having unhealthy cardiovascular behaviors (current smoker, lack of physical activity, poor nutrition/obese), does your health site have a system in place to follow-up on the individual's behavior change?*

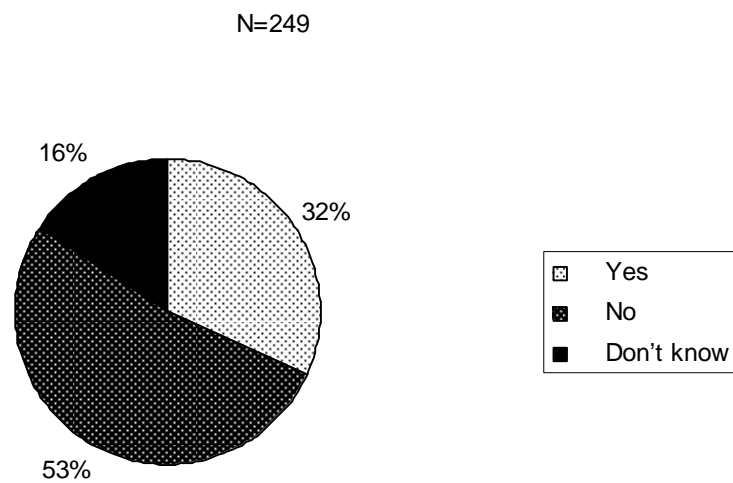
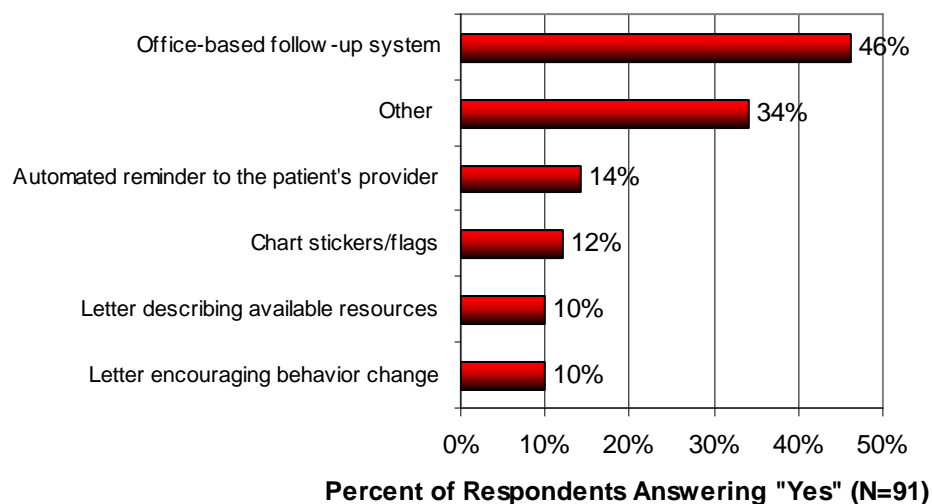


Figure 21. *If you have a system to follow-up on behavior change, please specify the system. (mark all that apply)*



- Most health sites do not have a system in place for following up with patients after identifying an unhealthy cardiovascular behavior.
- Sites that do have a system for follow-up use a variety of tactics, with office based systems being the most common (see Appendix B for a list of other).

Secondary Prevention Education: Provider Training

Figure 22. Do primary care providers (physician, physician assistant and nurse practitioner) at your health site receive training on how to assess and counsel patients for the following? (mark all that apply)

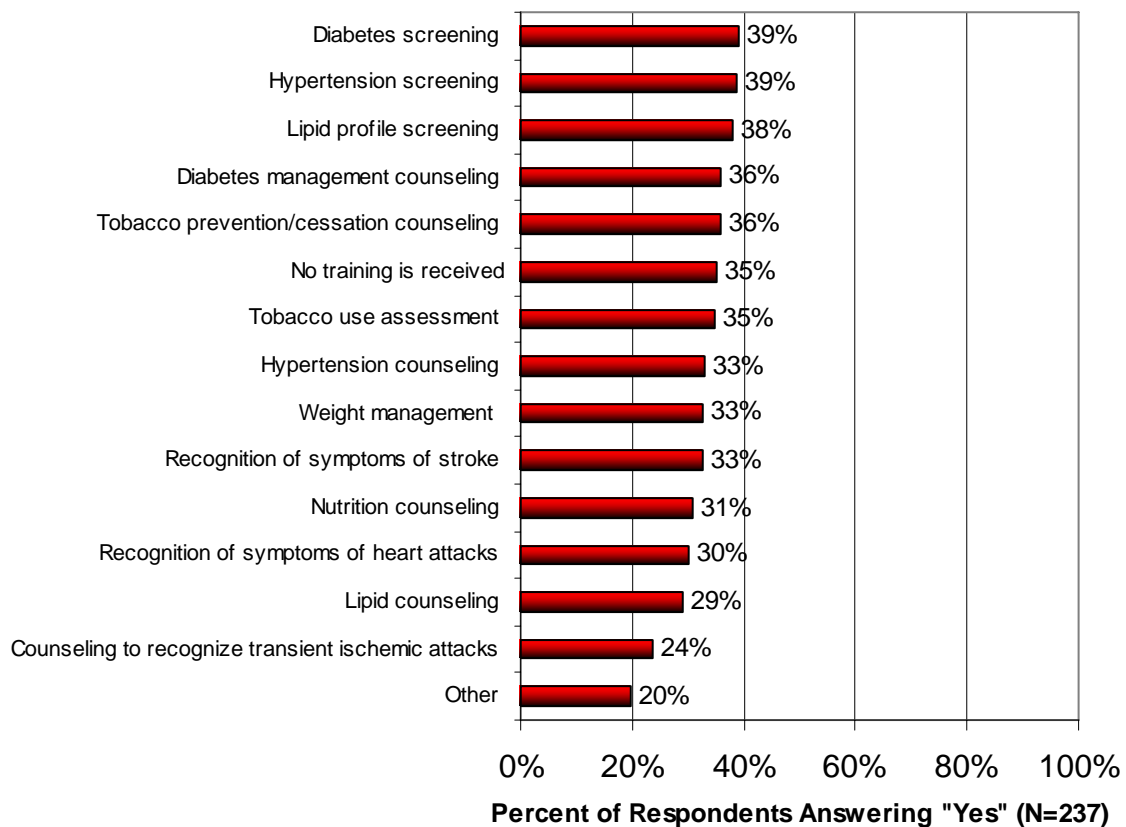


Figure 23. *If providers are trained for any of the services listed, please indicate what form of training is used. (mark all that apply)*

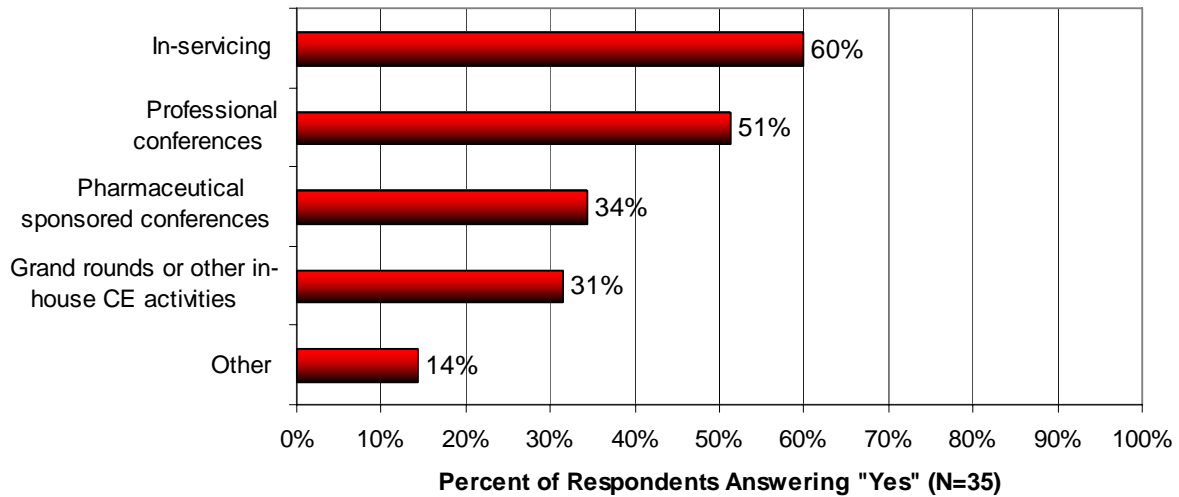
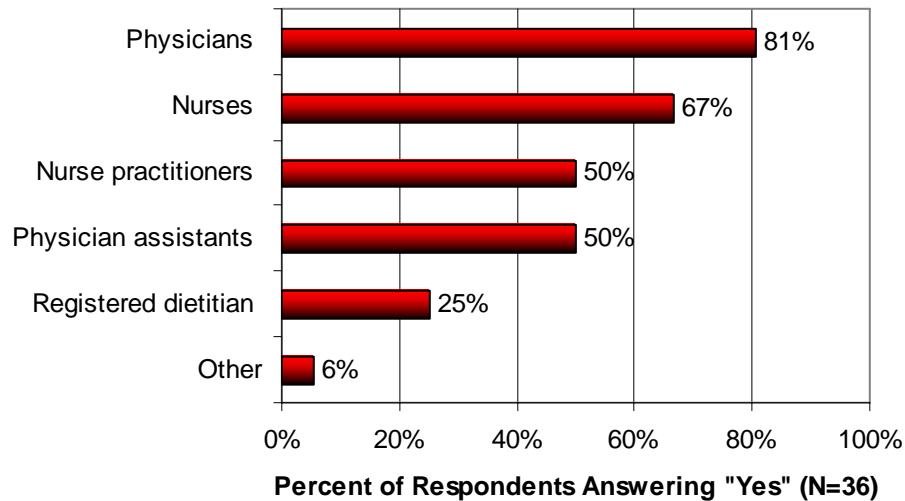


Figure 24. *Which providers receive training? (mark all that apply)*



- Diabetes, hypertension and lipid profile screening were areas where providers most frequently reported receiving training.
- In-servicing and professional conferences were the most common methods of training.
- Aside from registered dietitians, the majority of providers received training in secondary cardiovascular disease prevention.

Secondary Prevention Education: Measurement of Educational Services

Figure 25. Does your health site measure the number of providers giving the following educational services? (mark all that are measured)

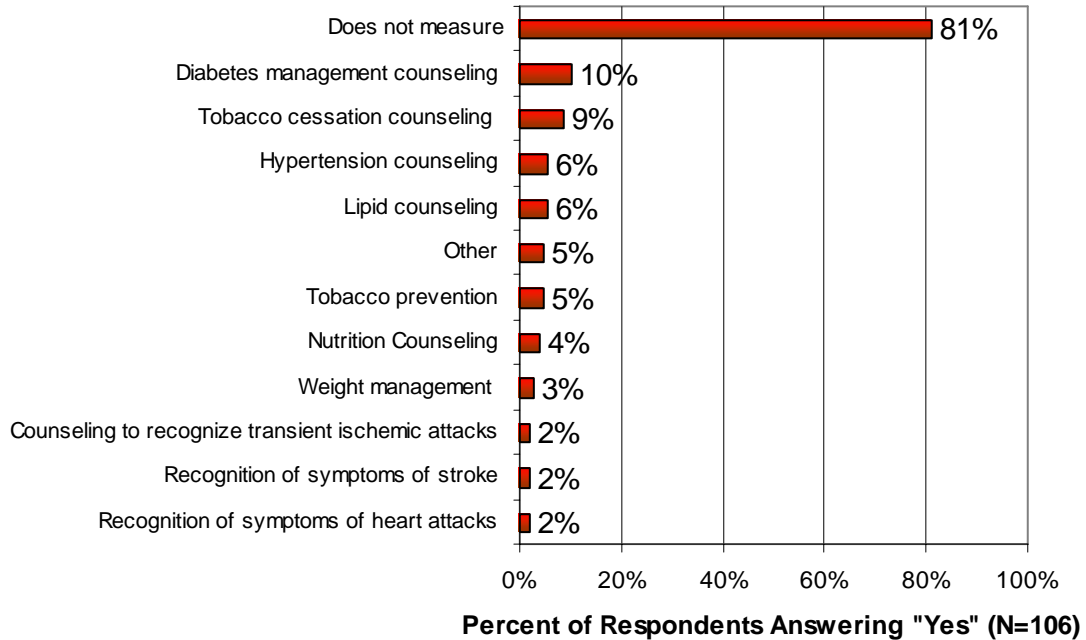
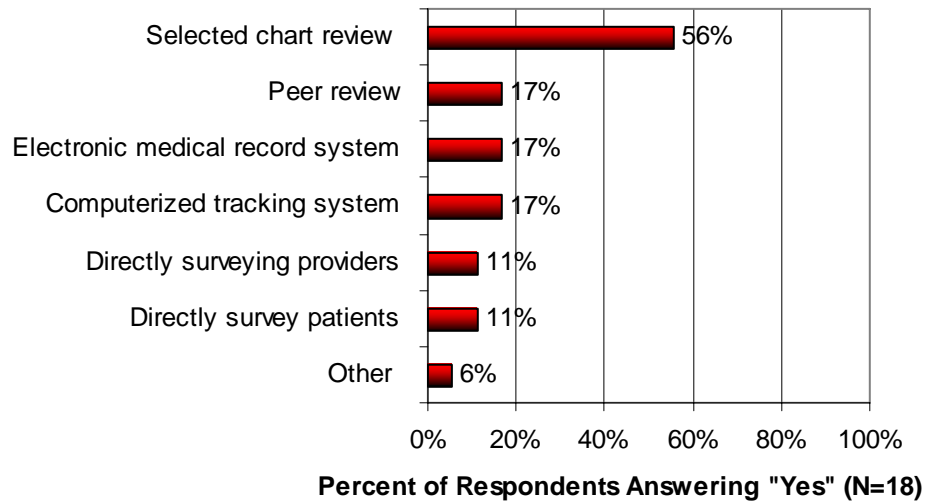


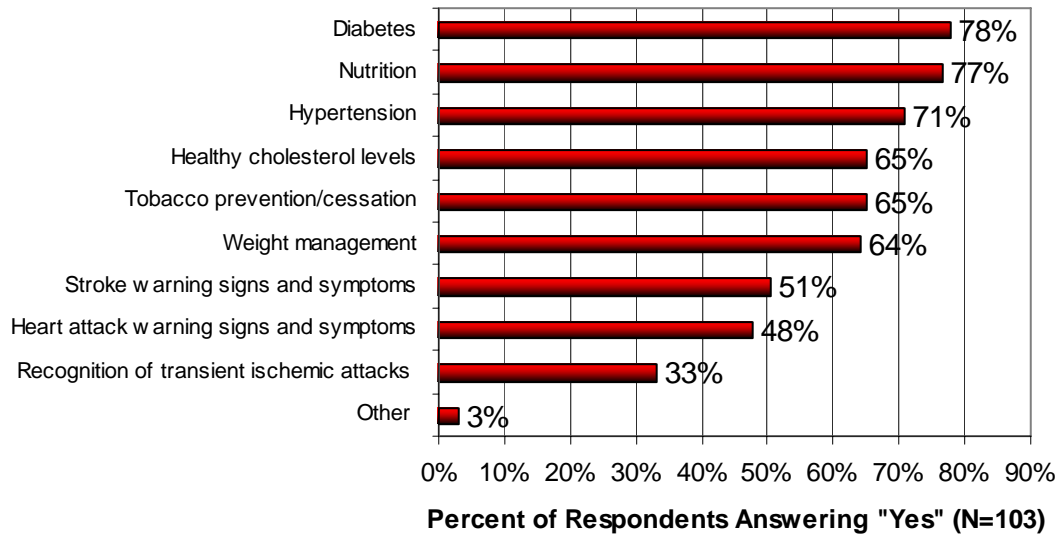
Figure 26. If the number of providers giving any of the services listed in the previous question is measured, please indicate which methods of evaluation are used. (mark all that apply)



- 81 percent of providers reported that their health sites did not measure the number of providers who gave educational services, but of the few that did, selected chart review was the most common form of evaluation.

Secondary Prevention Education: Availability of Educational Materials

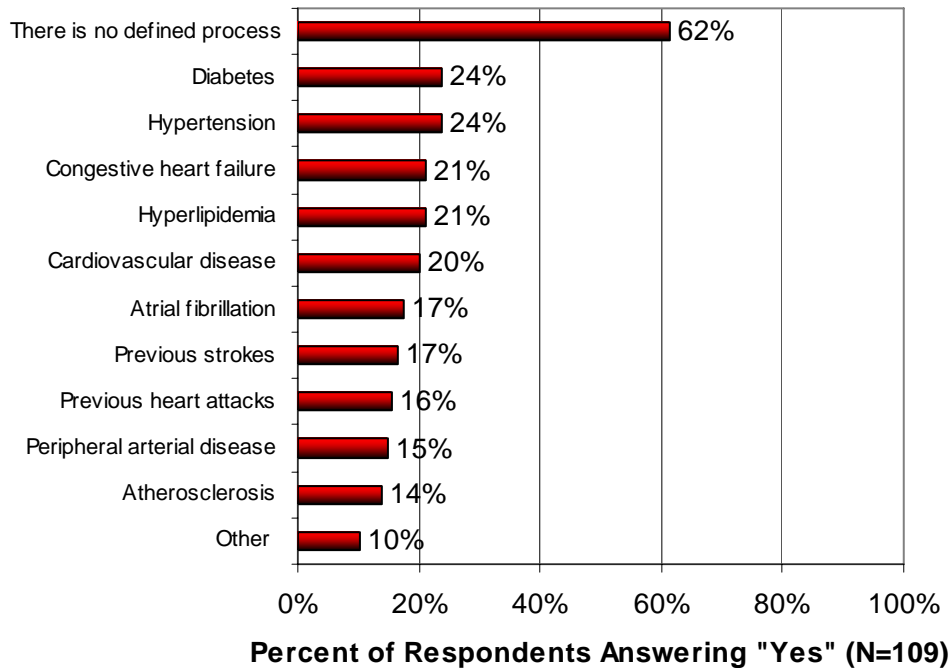
Figure 27. Does your health site have patient/client educational materials (classes, videos, printed materials) available for the following topics? (mark all that apply)



- Health sites have a number of materials available for the prevention of chronic disease, but only half offer patients information on the recognition of stroke and heart attacks, and even fewer give information on the recognition of transient ischemic attacks.

Secondary Prevention Education: Registries and Referral Programs

Figure 28. Does your health site have a defined process (e.g. registry or database) to identify all patients known to have the following conditions? (mark all that apply)



- The majority of health sites did not have a process for identifying patients with conditions that put them at risk for cardiovascular disease.

Figure 29. If there is a defined process to identify patients with any of the conditions listed in the previous question, is there a system to ensure that this process is used by providers or other clinicians on a regular basis?

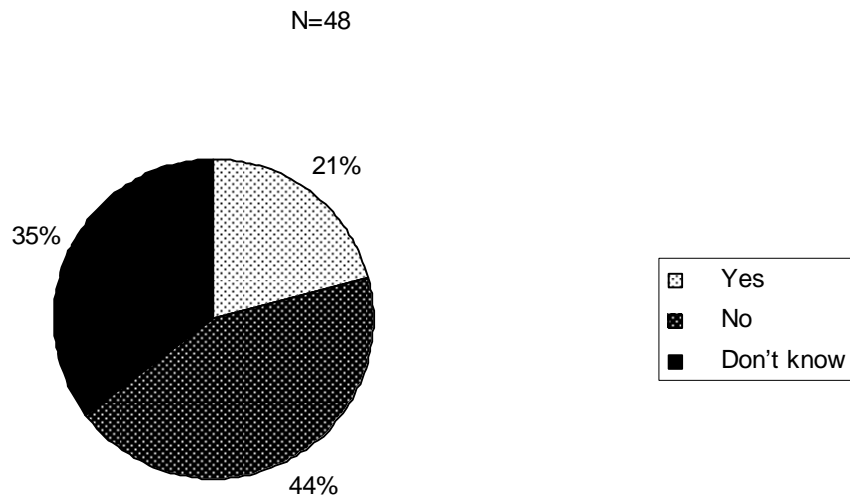


Figure 30. Does your health site have a policy to automatically refer patients with known chronic disease (e.g. hypertension, hyperlipidemia, morbid obesity, heart disease, past MI, past stroke, diabetes) to specialized services for secondary prevention of cardiovascular disease?(e.g. lipid clinic, diabetes clinic, cardiac rehab, fitness class, nutritionist/registered dietitian, tobacco cessation program, behavior therapy, etc.)?

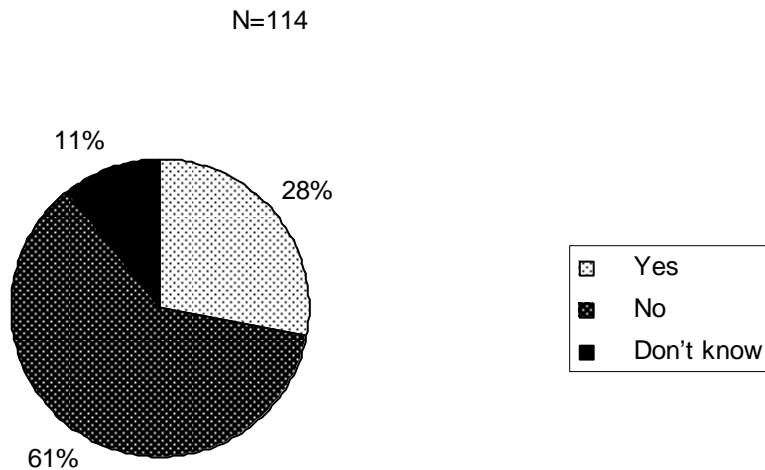
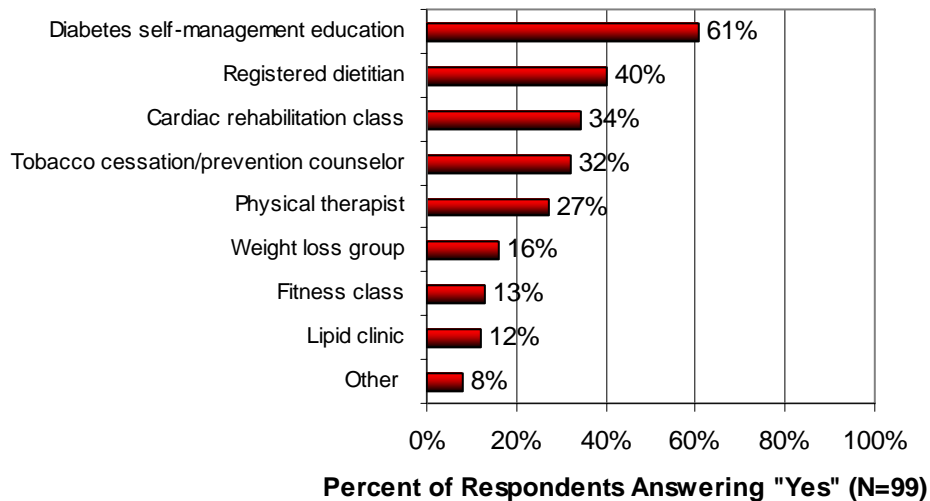
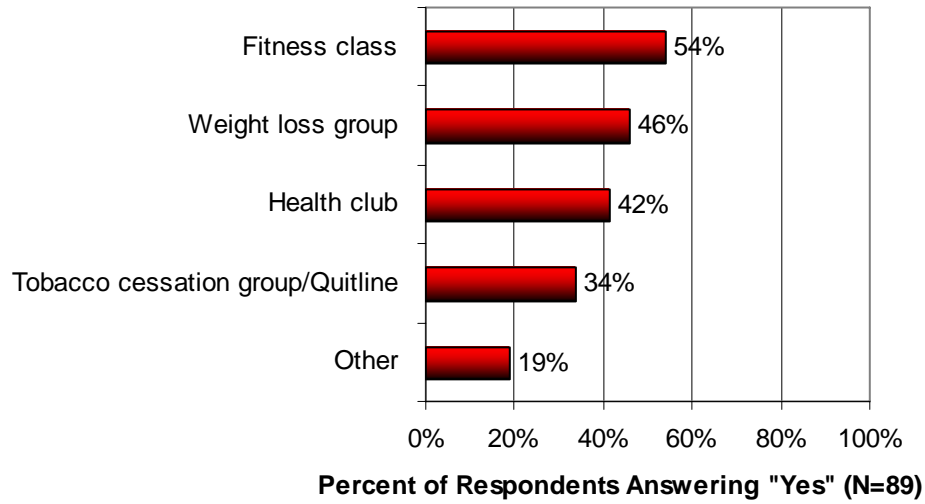


Figure 31. Please mark the on-site specialty programs to which referrals are most commonly made. (mark all that apply)



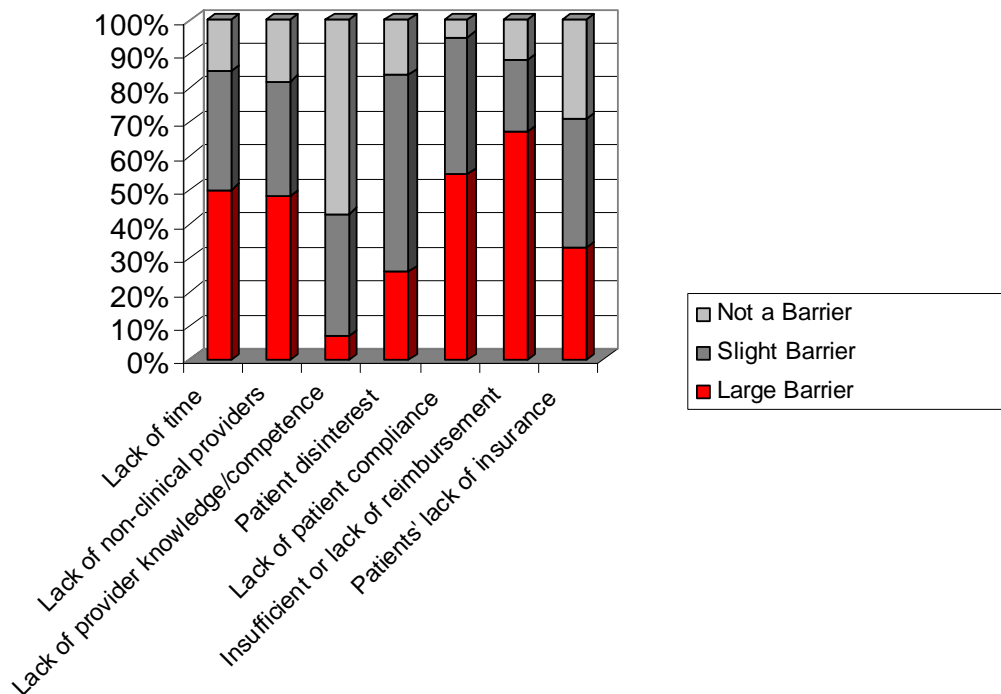
- The on-site program to which patients are most often referred is diabetes self-management education.
- Few health sites offer on-site weight loss or fitness programs.
- Few health sites have on-site lipid clinics.

Figure 32. Please mark the off-site non-medical programs or clinics to which referrals are most commonly made. (mark all that apply)



- Of the off-site programs listed, providers most often referred patients to fitness classes, weight loss groups and health clubs.

Figure 33. Please rate to what degree you perceive each of the following choices to be a barrier to providing secondary prevention at your health site.



- Providers commonly considered time, lack of non-clinical providers for patient education, patient disinterest, lack of patient compliance, reimbursement problems and lack for insurance as large or slight barriers to providing secondary prevention services.

- Providers least frequently cited lack of provider knowledge/competence as a barrier.

Outpatient Transitioning

Figure 34. *At your health care site, are there policies in place for transitioning patients following an acute event from the hospital to outpatient setting?*

N=231

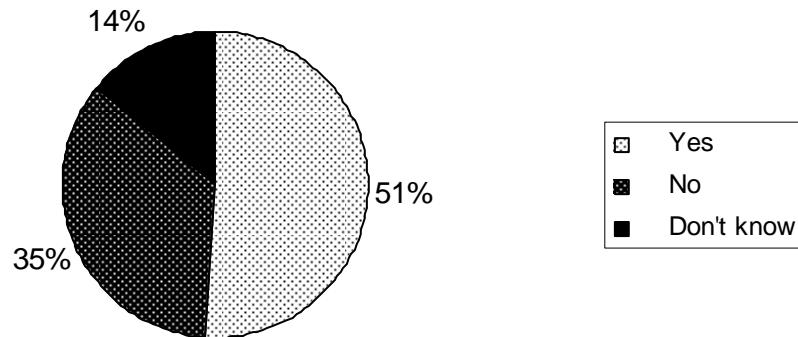


Figure 35. *Do your patients leave the hospital with complete, clear instructions?*

N=228

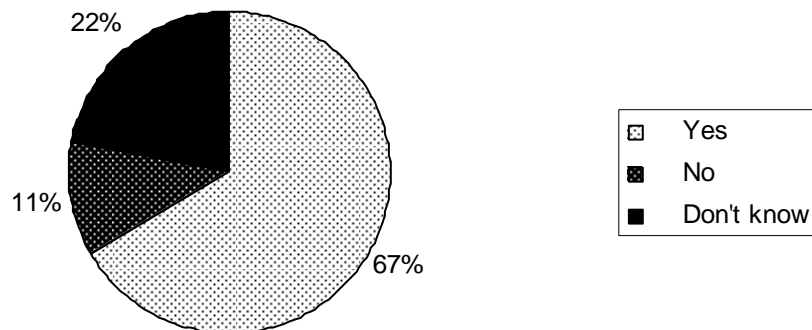


Figure 36. *Is there a follow-up appointment made (at the appropriate interval) before discharge?*

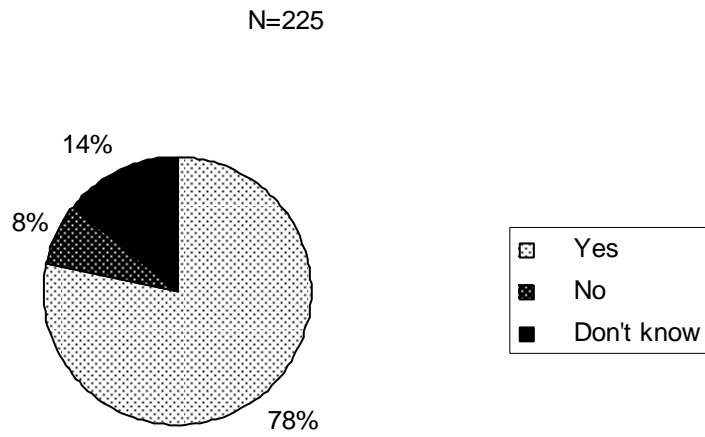
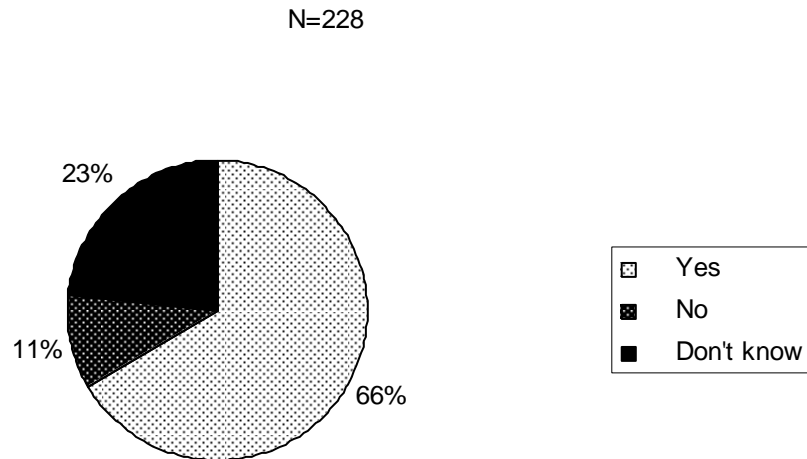


Figure 37. *Do patients have easy access to phone support for the interim?*



- Providers reported that mechanisms were in place to support patients in their transition from inpatient to outpatient care.

Figure 38. Does your health site have an automatic system to use American Heart Association (or equivalent) guidelines for patients being discharged from the hospital after an acute event such as heart attack or stroke?

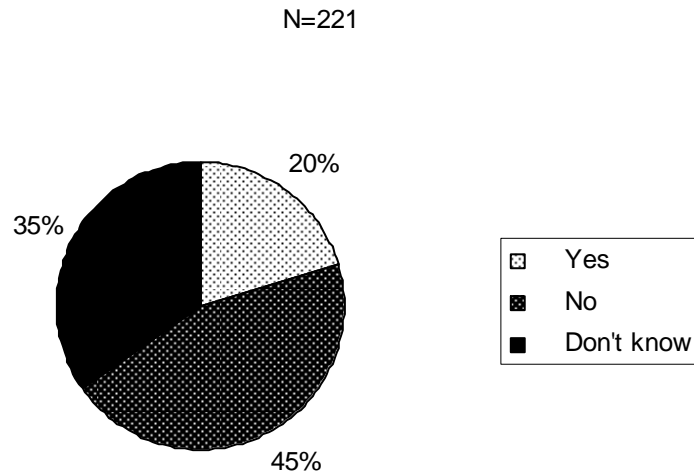
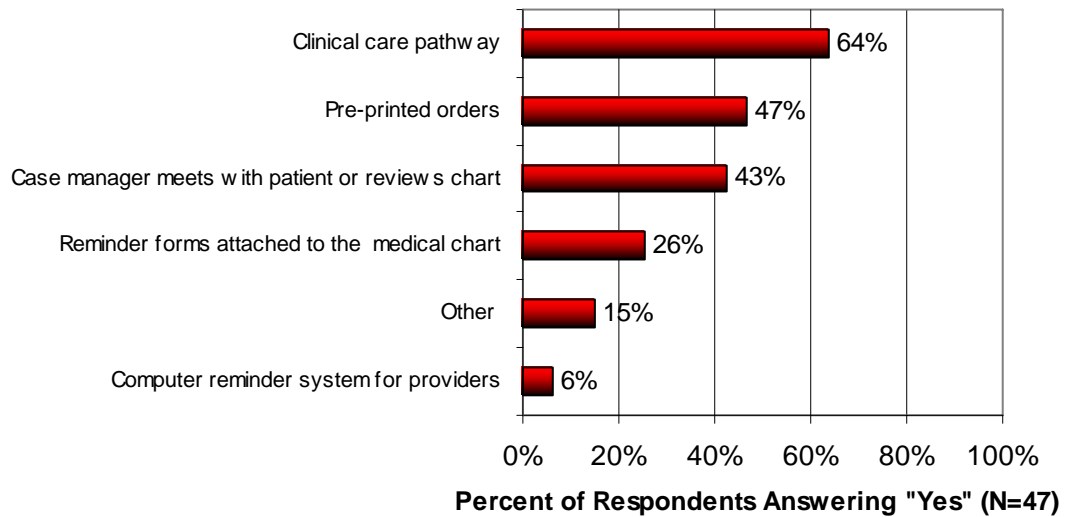


Figure 39. If you answered yes to question 34, what type of system(s) does your health site use? (mark all that apply)



- Only 20 percent of providers reported using an automatic system for AHA guidelines for discharged patients.
- Of those who had an automated system, the clinical care pathway was the most common system utilized.

Automated External Defibrillators (AEDs)

Figure 40. *Does your health site have one or more Automated External Defibrillators (AEDs)?*

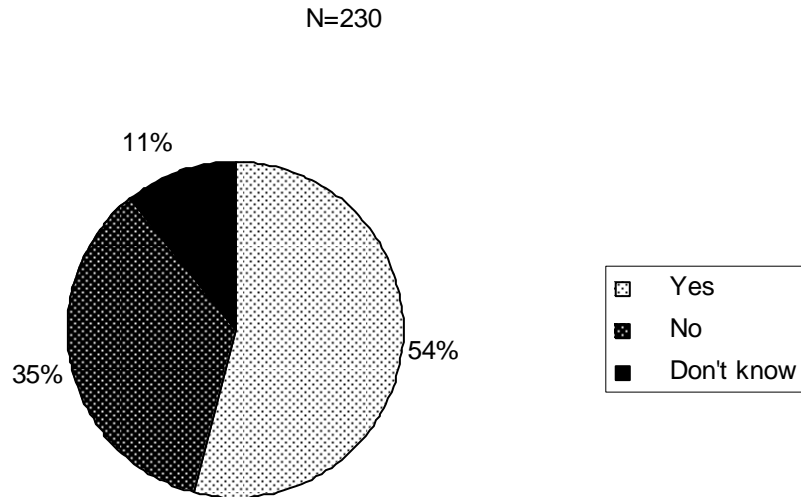
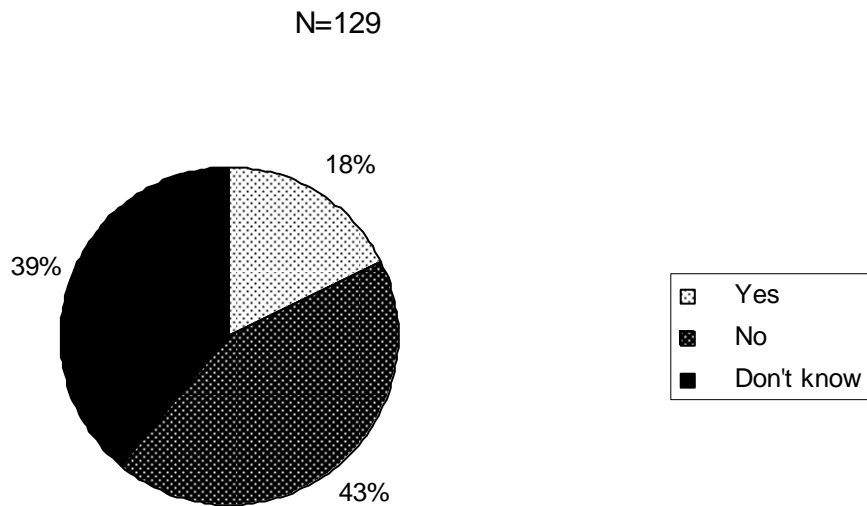


Figure 41. *Has an AED ever been used?*



- The majority of health sites have AEDs on hand, but many providers were unsure of whether they had been used in the past.

Figure 42. *Are trained staff members retrained periodically?*

N=126

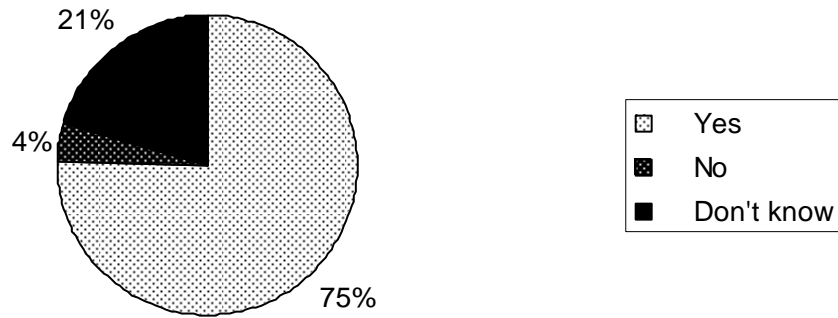
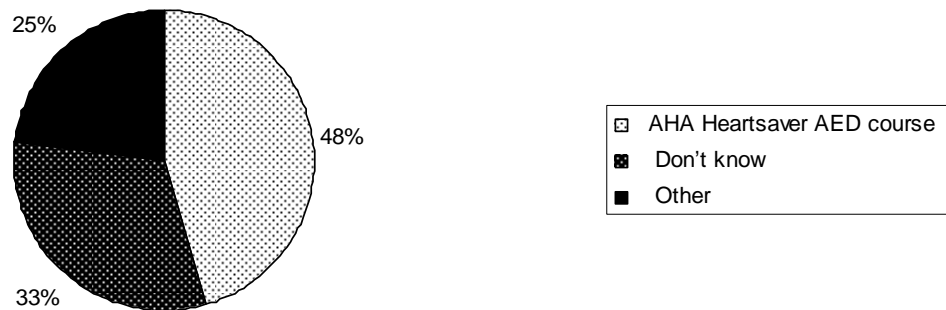


Figure 43. *If trained staff are retrained periodically, how are they retrained? (mark all that apply)*

N=114



- Respondents reported that staff members were periodically retrained in AED use, and that the AHA Heartsaver AED course was commonly utilized as a method of retraining.

Figure 44. *Is the AED easily accessible to all trained personnel?*

N=127

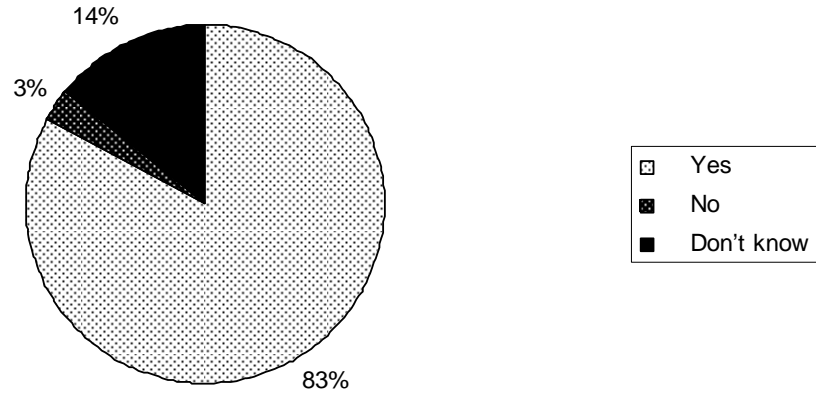
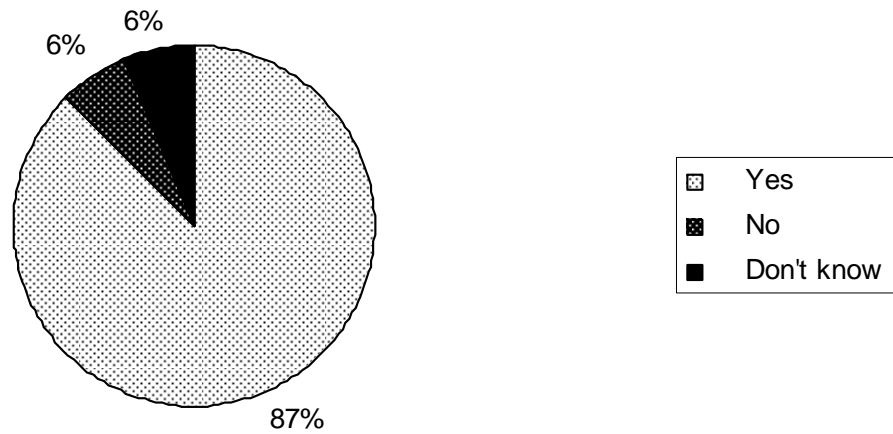


Figure 45. *Do you have a system in place for quickly alerting trained staff that their assistance is needed in case of a cardiac arrest event?*

N=126



- 83 percent of providers reported that the AED was easily assessable to all trained personnel, and 87 percent noted that there was a defined system in place of alerting staff of the need for the AED to be used.

Figure 46. *If your health site does not have an AED, have you considered purchasing one or more?*

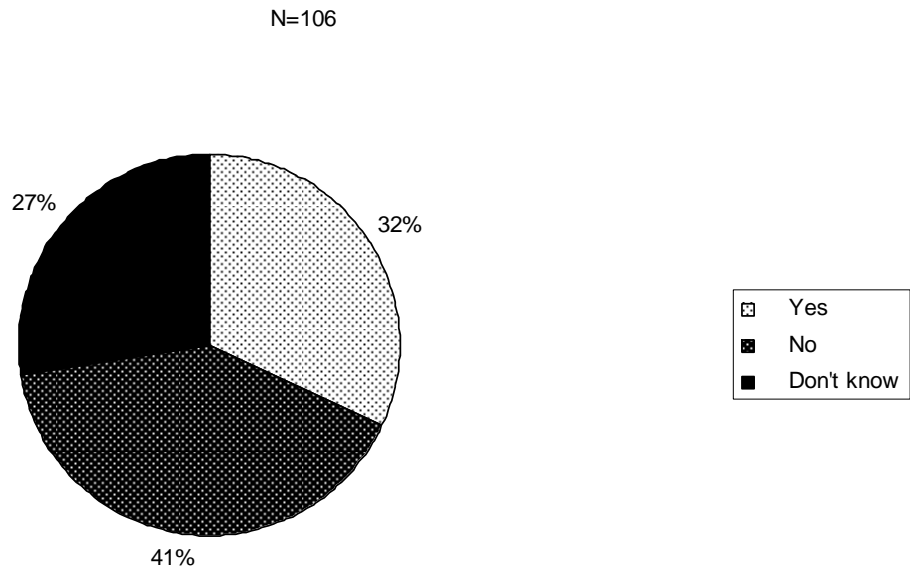
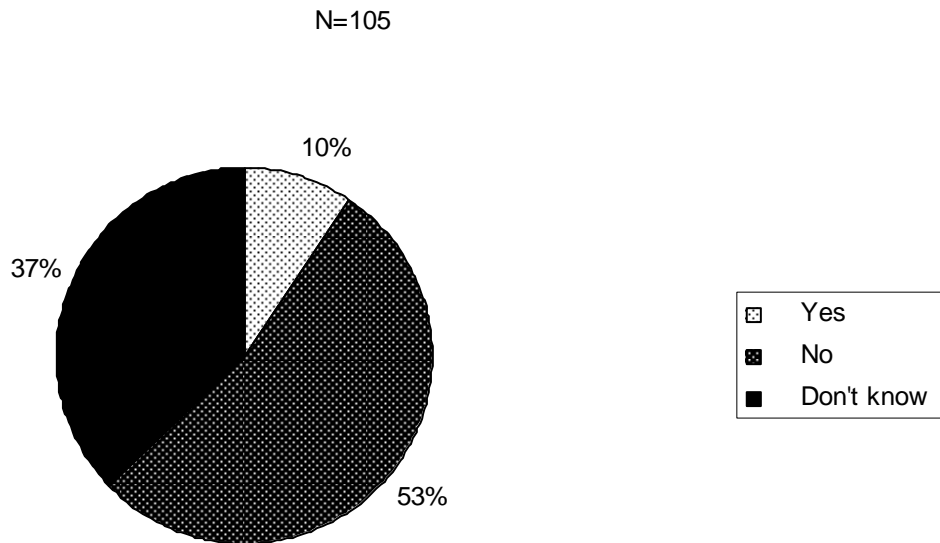
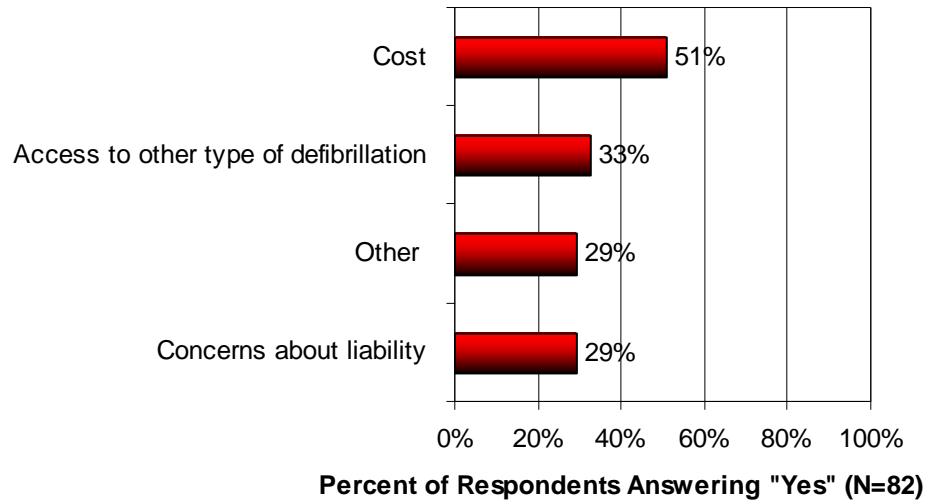


Figure 47. *If your health site does not have an AED, are you planning to purchase one?*



If you do not have an AED at your health site and do not plan to purchase one, what are the reasons for this current approach? (mark all that apply)



Other

1. Training and maintenance and continuous review of skills needed.
2. Individual clinics on site and ED onsite
3. management decision
4. We are the emergency department of a large acute care hospital. We have a code team with physicians and standard defibrillators.
5. We always have a crash cart and ACLS staff on-site.
6. I do contract work only. Have not been oriented to availability of AED at work sites.
7. I do not maintain an active office practice; I generally see patients at their place of residence (home or facility).
8. our providers are ACLS trained, we have a defibrillator at each office
9. In the ED all patients are seen immediately by a physician who can analyze rhythm, making automatically less valuable
10. Acute care hospital with rapid code team response, code cart generally available.
11. I am right on the hospital campus and very close to ED.
12. Close proximity to hospital
13. We have a lifepak defibrillator with appropriate training. Not an AED.
14. NA to my facility
15. no policy and procedure
16. don't know what plans are at present- there has been discussion without conclusion
17. Our focus is Case Management & Health Education
18. We do not see acute care patients
19. My office is located on the hospital grounds, very immediate access to ER level care.
20. We go to our client homes, no services provided at our location.
21. Non-qualified personnel to use AED
22. NOT APPLICABLE TO OUR PRACTICE
23. I don't work in a health care delivery site
24. We are located across the street from a fire station, and have access to an AED

- The majority of health sites that did not have AEDs did not plan to purchase one in the next year.
- Cost was the most common reason for not having or planning to purchase an AED.

Limitations of Study

There are several important limitations to consider when interpreting the results of this study. First, it was not possible to get information on specific health sites, only on individual physicians. While the physicians were randomized, there were several health sites for which there was large representation of respondents. This may skew the results if a large number of respondents were from health sites that differed because of their advanced or limited policies or guidelines around heart disease and stroke prevention.

Another methodological issue is that there was no way to utilize a password or ID number using the Survey Monkey web format. This allowed non-invited providers to respond. Looking at the results, about 30 percent of the respondents reported a provider type other than physician. Given the time constraints of physicians, it is possible that the invited providers passed the survey invitation on to a colleague at their health site. While this still gives us a variety of health sites, it compromises our randomization, which may have affected the results.

Finally, although follow-up phone calls and emails were employed to boost participation, the response rate of the survey was 31 percent. This may affect the results because the providers that responded may be unique in some way (i.e. having enthusiasm about prevention that led them to complete the survey, or more likely to have policies in place at their health site).

Although the study contains these limitations it is thought that overall the results are fairly representative of how North Carolina health sites are performing in the area of secondary prevention of heart disease and stroke.

Conclusions

The results of the study point to several key areas where the North Carolina Heart Disease and Stroke Prevention program may want to target its future efforts.

First, looking at the existence of formal policies or guideline statements regarding heart disease and stroke, it appears that most health sites do not have one in place. Providers do seem to think that some type of system is needed. This suggests that HDSP could potentially promote AHA guidelines or examples from local health sites as models for others to follow.

There appears to be a lack of availability of educational materials on recognition of stroke, heart attacks and transient ischemic attacks in comparison with what is available on other topics. This suggests that educational campaigns conducted by HDSP in these areas may fill a void in patients' knowledge of cardiovascular disease.

The availability of AEDs at health sites was promising; however, sites that are reluctant to purchase an AED could be made aware of the benefits of having one.

In conclusion, the survey provided some positive signs that North Carolina health sites are providing a variety of secondary prevention services, but the lack of focus on creating systems for monitoring and guiding such care is cause for concern. HDSP can do a great deal to assist providers in improving heart disease and stroke care, and the results of this survey will direct future initiatives. It is hoped that by partnering with health sites the cardiovascular health of North Carolinians can be significantly improved.

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