Original Paper

Physician Cardiovascular Disease Risk Factor Management: Practices in France vs the United States

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*Cardiovascular risk factor management by French vs US primary care physicians was studied. A survey was conducted that found that French physicians spend >20 minutes while US physicians spend five to 10 minutes (*P*<.001) addressing cardiovascular risk with patients. Fifty-three percent of French (vs 33% of US) physicians focus more on lifestyle modification and less on medication management (*P*<.0001). Sixty-nine percent of French physicians spend 0% to 20% of their time on administration while 65% of US physicians spend 10% to 30% (*P*=.0028). Fifty-one percent of French physicians see patients in one to three months for follow-up, while 51% of US physicians see patients in three to six months (*P*<.0001). Eighty-seven percent of French (vs 39% of US) physicians have guidelines available in the examination room either frequently or very frequently. US physicians report disparities in care more frequently than do French physicians (*P*<.0001). Forty-nine percent of French (vs 10% of US) physicians believe that they have relative freedom to practice medicine (*P*<.001). US physicians report greater administrative efforts, frustration, and disparities in their practice. French physicians focus more of their efforts on lifestyle management and see their patients more frequently and for a longer visit time.* J Clin Hypertens (Greenwich). *2011;13:10–18.* ©*2010 Wiley Periodicals, Inc.*

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Manuscript received April 5, 2010; revised July 7, 2010; accepted July 12, 2010

doi: 10.1111/j.1751-7176.2010.00370.x

Very little is known about the details of how physicians manage cardiovascular (CV) risk factors in the office or clinic setting, especially primary care physicians. Although various CV risk factor guidelines have been promulgated (eg, the Third Report of the Adult Treatment Panel National Cholesterol Education Program, the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure), their dissemination and implementation have not been especially successful or well studied.

CV disease (CVD) death rates are dramatically lower in France than they are in the United States. The CVD mortality rate for men is 351 per 100,000 based on the International Classification of Diseases of the circulatory system in the United

States and 230 in France. For women, the CVD mortality rate is 317 in the United States and 217 in France.[1] This is a 34% and 32% difference, respectively. CVD risk factors do not appear to be divergent enough to explain all of these differences. The prevalence of hypertension in France was 26.8%, while at the same time it was 28.7% in the United States.[2,3] Hypercholesterolemia has been reported in France according to total cholesterol, with a prevalence of 35.1% vs 17.8% in the United States (recognizing that high-density lipoprotein levels are not seemingly reported in population studies in France, which may exaggerate some of the apparent difference in CVD risk).[2,4] The prevalence of diabetes in France is 8.5%, while in the United States it is 10.7%.[2,5] Smoking prevalence is 25.4% in France vs 22.8% in the United States at a comparable time.[6,7] In 2000, the World Health Organization released its most recent evaluation of health systems internationally. While the United States was ranked 37th in this controversial report, France was ranked first among the health systems.[8]

The French health care system is relatively expensive compared with other high-income countries. It is the fourth most expensive in the world, with the United States being the most expensive.[9] Although the French spend much more money than most other nations, the French health care system is still much less expensive than the US health care system. In 2007, the French spent 11% of the gross domestic product (GDP) on health care, whereas the United States approached 16% of the GDP, nearly a 50% higher expenditure of national resources.[10] France has universal health care, with a National Health Insurance process. The central government requires mandatory health insurance (provided primarily by three major social insurance funds) for all residents of France.[11] The fee schedule, then, is more simplified in France than in the United States, where there are multiple payers and multiple fee schedules. In France, primary care is provided by family practice physicians, 80% of whom are self-employed and are paid fee for service, much like most US physicians.[12]

In 2005–2006, the National Heart Lung and Blood Institute (NHLBI) created 12 Enhanced Dissemination Utilization Centers recognizing the need to disseminate and implement research discoveries by "taking the findings of clinical investigations and translating them into the practice of medicine at the community level."[13] The principle investigator of this study was one of the center's directors established by NHLBI. Members of this team have previously studied how microsystem changes in physician offices improve the use of practice guidelines.[14,15] This group is now reporting an extension of that process, looking at the comparison of physician management of CV risk factors in the microsystem of the office or clinic in two countries.

We chose to compare CVD risk factor management by primary care physicians in the United States vs France. The goal was to search for differences in the day-to-day outpatient management of patients with CVD risk factors. Might some of those differences highlight some of the differences between the US and French health care systems? Could those system's differences explain part of the differences in CVD death rates? Additionally, the investigators hypothesized that the availability of universal access to care in France, with less administrative complexity than the United States, allows physicians and patients to adopt professional and culturally pertinent approaches to the management of CV risk factors (specifically hypertension, hyperlipidemia, and obesity) that result in improved outcomes of care. We conducted an Internet-based survey comparing French and US primary care physicians' attitudes to attempt to understand whether practice organization and the health care system could have an impact on CVD risk factor management.

METHODS

Survey Design

Preliminary information was collected by local interviews, on-site study of physician practices, and literature review. A web-based survey was conducted. Nearly all physicians were primary care physicians (primarily family physicians). French physicians were surveyed through the French Society of General Medicine, the main organization of family physicians in France. Most US physicians surveyed were members of the Ohio Academy of Family Practice, although primary care physicians in other US states were also included. A brief multiple-choice survey (44–45 questions) was made available through the Internet. The survey was written in English and translated into French.

Physicians were asked various demographic questions (age, specialty, country, practice location [urban, suburban, and rural], employment status [self-employed, government-employed, hospital-employed, group-employed, insurance company–/HMO-employed]). The survey asked each physician about their practice behaviors such as how often they typically see a patient with hypertension and hyperlipidemia for ongoing management (eg, every 2 months, every 6 months) and how much time

Table I. Physician Demographics			
Age, y	French, No. (%)	United States, No. (%)	*P* Value
<35	63 (10)	7 (13)	<.8291
35–44	76 (12)	14 (26)	
45–54	300 (47)	13 (25)	
55–64	185 (29)	11 (21)	
>64	12 (2)	8 (15)	
Specialty			
Family/general practice	620 (97)	53 (100)	.655
Internal medicine	1 (<1)		
Others	16 (3)		

they typically spend with a patient with one of these problems (eg, 5 and 15 minutes). Physicians were asked whether they used electronic medical records and what percentage of their patients were successfully treated according to national/regional guidelines for hypertension and hyperlipidemia. The survey sought best practices reported by each physician to achieve the best outcome. It asked what factors influenced their selection of medication in treating patients with risk factors for CVD and what their primary focus was while caring for these patients (lifestyle modification, medication, or both), whether they had a reminder system for ongoing care (and whether it was automatic or manual), whether they had graphic reporting over time of outcomes for hypertension and/or hyperlipidemia (and whether it was automatic or manual), whether they routinely provided patient education (and if so, how many minutes they think they spent on patient education), whether they provided patient education materials, whether they had easily accessible information on current guidelines that allowed them real-time access during a patient encounter, whether they routinely followed guidelines or were just aware of them in general, whether they had peer review of their outcomes either internally from a colleague or externally from the government or insurance company, and whether those outcomes reported to them are believed by the physicians to be accurate. The survey asked physicians whether race, cultural issues, or lack of health insurance affected the care of their patients and whether they were influenced by the government or insurance companies in making medical decisions. They were asked whether their personal income or the revenue brought to their practice group was influenced by their clinical outcomes in CV risk management and, if so, by how much (eg, 20%, 40%, 60%, and 80%). This study was approved by the institutional review board of both Wright State University and the University of Georgia. Participants provided informed consent by participating in the study.

Statistical Analysis

The data was collated, best practices identified and ranked in order of frequency, and the responses of the French physicians then compared with the US physicians (system to system) in parallel to CVD death rates using SAS version 9.1 for analysis (SAS Institute, Cary, NC). Ordinal data were analyzed using the Cochrane–Armitage test for trend to seek differences in physician practices between the nations. Nominal data were analyzed using the chi-square or Fisher exact tests, as appropriate. A *P* value of <.05 was considered statistically significant for all statistical tests.

RESULTS

Physician Demographics

This is a study of family practice physicians in the United States and France (Table I). Six hundred fifty-six French physicians completed the survey. Fifty three US physicians completed the survey.

Practice Management Behaviors

There are notable differences in practice management between US and French physicians (Table II). While many physicians in both countries reported spending 10 to 20 minutes with patients during office visits for CV risk factor management, relatively more French physicians spend >20 minutes while US physicians spend five to 10 minutes (Figure 1). While 53% of French physicians focus more of that time on lifestyle modification and less time on medication management, only 33% of US physicians report the same emphasis. French primary care physicians use an electronic medical record more often than the US physicians sampled. French physicians appear to spend a greater percentage of their visit time delivering care rather than focusing on administrative issues. Sixty-nine

Table II. Practice Management Behavior

Question	Answer	French, No. (%)	United States, No. %	*P* Value
For the typical patient with high blood pressure and/or high cholesterol who is not specially complicated, I spend the following amount of time in an office/clinic visit	<2 min	0 (0)	0 (0)	<.0058
	>2–5 min	0 (0)	2 (4)	
	>5–10 min	31 (5)	10 (19)	
	>10–20 min	512 (81)	40 (75)	
	>20 min	87 (14)	1 (2)	
I typically see patients whose primary health problem is hypertension, hyperlipidemia, or obesity/overweight for follow-up within	<2 wk	20 (1)	2 (1)	<.0001
	>2 wk to 1 mo	180 (10)	11 (7)	
	>1–<3 mo	941 (50)	38 (24)	
	>3–<6 mo	632 (33)	79 (51)	
	>6 mo	108 (6)	27 (17)	
I typically write renewal prescription for blood pressure/cholesterol medicine for:	<2 wk	0 (0)	0 (0)	<.0001
	>2 wk to 1 mo	11 (2)	0 (0)	
	>1 to <3 mo	361 (58)	6 (11)	
	>3 to <6 mo	242 (38)	38 (72)	
	>6 mo	12 (2)	9 (17)	
When I am seeing patients in the clinic/office for the management of cardiovascular disease risk factors, I allocate time as:	<10% paperwork/administration and >90% patient care	183 (29)	10 (19)	<.0028
	10%–20% paperwork/administration and >80%–90% patient care	248 (40)	14 (27)	
	21%–30% paperwork/administration and >70%–80% patient care	139 (22)	20 (38)	
	31%–40% paperwork/administration and >60%–70% patient care	44 (7)	4 (8)	
	>40% paperwork/administration and <60% patient care	15 (2)	4 (8)	
I use electronic medical records for:	<20% of my patients	53 (8)	33 (67)	<.0001
	20%–40% of my patients	12 (2)	1 (2)	
	41%–60% of my patients	7 (1)	1 (2)	
	61%–80% of my patients	19 (3)	1 (2)	
	>80% of my patients	541 (86)	13 (27)	
Guidelines are available to me in the examination room when I'm seeing my patients	Very infrequently	7 (1)	19 (36)	<.0001
	Infrequently	13 (2)	5 (10)	
	Not very often	61 (10)	8 (15)	
	Frequently	299 (47)	15 (28)	
	Very frequently	251 (40)	6 (11)	
I use guidelines for management of patients with cardiovascular disease risk factors for:	<20% of my patients	46 (7)	7 (14)	.5446
	20%–40% of my patients	62 (10)	5 (10)	
	41%–60% of my patients	93 (15)	6 (12)	
	61%–80% of my patients	154 (24)	7 (14)	
	>80% of my patients	276 (44)	25 (50)	
The percentage of patients with cardiovascular disease risk factors that I care for who are successfully treated and have reached our national or professional guidelines are:	<20% of my patients	19 (3)	2 (4)	.0187
	20%–40% of my patients	166 (26)	8 (15)	
	41%–60% of my patients	308 (49)	21 (40)	
	61%–80% of my patients	109 (17)	18 (35)	
	>80% of my patients	28 (5)	3 (6)	
The two most important factors that influence my selection of medication to treat cardiovascular risk factors are:	Price and guidelines	142 (28)	32 (67)	<.0001
	Price and journals/textbooks	2 (<1)	3 (6)	
	Price and pharmaceutical company promotion	0 (0)	0 (0)	
	Price and personal experience	3 (<1)	8 (17)	
	Guidelines and journals/textbooks	119 (23)	1 (2)	

Table II. Practice Management Behavior (Continued)

Question	Answer	French, No. (%)	United States, No. %	*P* Value
	Guidelines and pharmaceutical company promotion	4 (<1)	0 (0)	
	Guidelines and personal experience	227 (45)	4 (8)	
	Journals/textbooks and pharmaceutical company promotion	0 (0)	0 (0)	
	Journals/textbook and personal experience	11 (2)	0 (0)	
	Pharmaceutical company promotion and personal experience	2 (<1)	0 (0)	
My focus on the care of patients with cardiovascular risk factors is:	Lifestyle modification only	2 (<1)	0 (0)	<.0001
	Primarily lifestyle modification and secondarily use of medicine	334 (53)	17 (33)	
	Equal balance of lifestyle modification and use of medicine	268 (42)	31 (59)	
	Primarily use of medicine and secondarily lifestyle modification	29 (5)	4 (8)	
	Medicine only	0 (0)	0 (0)	
	Lifestyle modification only	2 (<1)	0 (0)	
Government or insurance pays at least 60% of the cost of the prescription I write for my patients' medications	<20% of the time	8 (1)	6 (12)	<.0001
	20%–40% of the time	25 (4)	9 (17)	
	41%–60% of the time	37 (6)	13 (25)	
	61%–80% of the time	82 (13)	12 (23)	
	>80% of time	472 (76)	12 (23)	

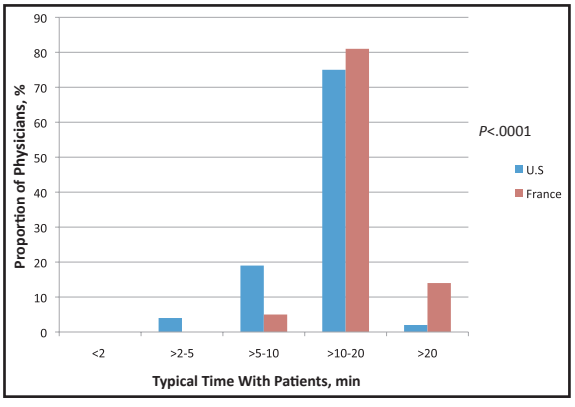

Figure 1. Comparison of typical time spent with patients.

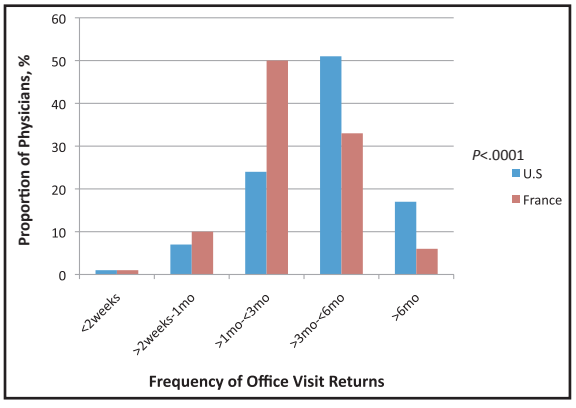

Figure 2. Frequency of office visit returns.

percent of French physicians spend 0% to 20% of their time on administration, while 65% of US physicians spend 10% to 30%. French physicians see patients with cardiometabolic risk factors more frequently for follow-up and they provide shorter renewal cycles for continuing medications for their patients than do US physicians. Fifty percent of French physicians see patients in one to three months for follow-up, while 51% of US physicians see patients in three to six months (Figure 2). Eighty-seven percent of French physicians have guidelines available to them in the examination room either frequently or very frequently, whereas only 39% of US physicians have guidelines available. Although both groups say they use practice guidelines, the French physicians believe that fewer of their patients are treated to the guidelines. Seventy-five percent of French physicians report that 20% to 60% of their patients are treated according to guidelines vs 75% of US physicians, who report that 41% to 80% of their patients were treated according to guidelines. French physicians make

Table III. National Policy Impact on Practice

Question	Answer	French, No. (%)	United States, No. (%)	*P* Value
Patients lack health insurance/coverage in my clinic/office	Never	362 (57)	1 (2)	<.0001
	Rarely	245 (39)	11 (21)	
	Occasionally	16 (2)	30 (58)	
	Frequently	3 (<1)	9 (17)	
	Almost always	8 (1)	1 (2)	
Racial, economic, cultural issues affect care of patients in my clinic/office	Never	113 (18)	4 (8)	<.0001
	Rarely	169 (27)	6 (11)	
	Occasionally	194 (30)	15 (29)	
	Frequently	125 (20)	18 (35)	
	Almost always	35 (5)	9 (17)	
I am free to practice medicine/care for my patients/make medical decisions as I feel best without much interference by government (including government insurance/health maintenance organization/insurance companies/sick funds	Strongly disagree	17 (3)	14 (27)	<.0001
	Disagree	185 (29)	28 (54)	
	Neutral	121 (19)	5 (9.5)	
	Agree	263 (42)	5 (9.5)	
	Strongly agree	47 (7)	0 (0)	

decisions on medicine prescriptions based on guidelines and personal experience without as much concern for the price of medicines. US physicians report that their patients significantly contribute to the payment of their medications and they focus more on the costs of the medications and less on the guidelines for prescription decisions.

National Policy Impact Questions

There are significant differences between US and French physicians regarding their perception of how national policy in their countries affects health care delivery (Table III). US physicians report caring for more patients without health insurance than do French physicians. While 96% of French physicians report that their patients never or rarely lack health insurance, only 23% of US physicians have a highly insured patient population. Likewise, US physicians believe that racial, economic, and cultural issues affect the care of their patients, vs French physicians who do not believe that there are as many disparities. Finally, while 49% of French physicians believe that they have more freedom to practice medicine and make medical decisions without interference from the government or insurance companies, only 10% of US physicians report that same freedom (Figure 3).

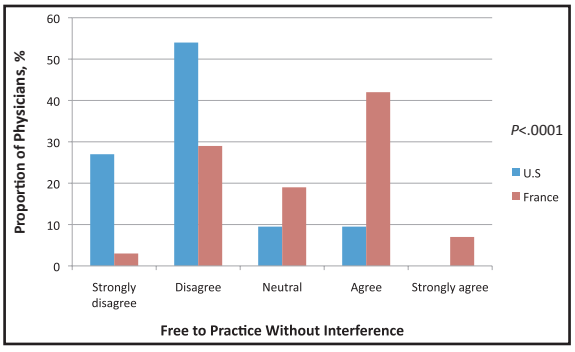

Figure 3. Comparison of French and US physicians who feel free to practice without interference.

DISCUSSION

Both the microsystem of the physicians' practice activities in France and the macrosystem of care provided by a system that provides universal care may contribute to better outcomes of care, producing lower CV mortality rates. Out-of-pocket health care expenses in France are 11% of all health costs vs in the US, where the insured contribute 19% to 20% of costs.[8,16] The uninsured in the United States have 100% out-of-pocket expenses, whereas in France there is virtually no one without one of the various insurance programs. In neither country is there "first dollar coverage" for the population, but French out-of-pocket expenses are much less than in the United States.

For CVD risk factor management, more intensive care leads to better outcomes.[17] French physicians see their patients more frequently and report spending relatively more time with their CV risk

patients than do US physicians. Likewise, they provide them with shorter prescription refill schedules. Is this greater intensity of care provided by French physicians a contributor to better CVD outcomes in France than in the US? French physicians report that they are less successful in achieving guideline goals than US physicians. This is consistent with the CardioMonitor survey comparing US and European physicians' management of CVD risk factors.[18] Does this reflect a more accurate assessment by French physicians of the ongoing struggle by all physicians to achieve goals? Do French physicians use guidelines differently from US physicians?

French primary care physicians focus more on lifestyle modifications than medication management. Lifestyle modification is a central theme of US guidelines.[19,20] Lifestyle modifications are felt to have significant benefits in lowering CVD mortality.[21] US physicians report that they are uncomfortable addressing lifestyle issues.[15] It appears that the French are more oriented to that practice than US physicians. Although neither physician group is fully successful in managing all patients with CV risk factors, might US physicians have less success especially related to lifestyle modification and French physicians have less success especially related to medication intensification?[22] From a public health perspective, lifestyle modifications may ultimately be more potent in reducing CVD than medication modification. French physicians see their patients more frequently and spend more time with them. Does this contribute to greater success in CVD risk factor management, without optimizing medications? French physicians appear to be less concerned with the cost of medications and report that they can focus on what they believe to be the best medications to use to treat CV risk factors.

The system of care may be more effective in France than the United States in producing better outcomes. Less administrative work, less distraction from clinical efforts with less bureaucracy, the use of an electronic medical record in primary care, and a simpler payment system are evident in French physician practice. These may be factors in improving outcomes. US physicians report greater disparities in the care provided than do French physicians. Disparities in care have dramatically adverse effects on clinical outcomes, with patients exposed to the greatest disparities receiving the worst care.[23] These disparities also make physician–patient interventions less effective and can exacerbate clinical inertia.[24]

Office design may affect system of care. US physicians generally see patients in an examination room, with a separate room generally serving as a private office. This private office has the physician's books and papers, including guidelines. French physicians examine patients in a consulting room, which is also their office. This difference in office design may explain the difference of availability of practice guidelines. In the United States, office design has been primarily focused on patient satisfaction and "throughput," without attention to measured quality outcomes.[25,26] Is the French office design more oriented to availability of information that improves the practitioners' clinical performance?

Although systems differences in health care delivery may be a factor explaining the dramatic differences in CVD death rates between these two countries, other factors likely play a major role. These include differences in lifestyle, public health, and the social determinants of health. Social determinants of health address the intersection among biology, culture, environment, and social structure. The work environment, nutrition, geography, and many other social and political factors can affect health.[27] For example, French employees work on average 1459 hours per year, compared with US employees who work 1815 hours per year.[28] Does the added 356 hours per year of non-work add to the CV health of the French population?[29,30] These factors may well play a significant difference in addition to the health systems differences.

LIMITATIONS

This study is based on a survey conducted via the Internet. Cultural differences may result in different answers to the same question. The physicians responding to the survey may not be a representative sample of all physicians. Although statistical significance was achieved in comparing US and French physicians, the small number of US physicians who responded to the survey may represent an especially nonrepresentative sample. These reported differences are not proof that they produce the better outcomes in CV risk factor reduction. Physician self-reports are often inaccurate. Physicians are well known for overestimating their success in achieving successful patient outcomes.[31,32]

A more comprehensive study is needed to further understand these issues. Physicians need to be observed doing their work. A larger sample of US physicians would ensure the accuracy of the findings.

CONCLUSIONS

Persons living in the United States have a dramatically greater risk for dying of CVD than do those living in France. There are many factors that may explain these differences, including population and lifestyle differences, social determinants of health, and possibly genetic differences. The health care systems are distinctly different. France has universal health care coverage, while the United States has a myriad of health care payer sources and a very significant percentage of the population has to pay for health care themselves with no financial support from either government or employers. US physicians report greater administrative efforts, greater frustration, and greater disparities in their practice of medicine than do French physicians. There is significant evidence based on this survey of French vs US primary care physicians that the French physicians appear to have differences in how they practice medicine as well. The built environment of their office and the use of electronic medical records may make the availability of practice guidelines and other references more available at the point of care. French physicians appear to focus their efforts more on lifestyle management of CVD risk factors. Finally, the increased intensity of care provided by French physicians may be evidence of a difference in practice focus, possibly reflecting cultural difference. Patients in France with CVD risk factors may have better outcomes possibly because the French physicians focus on more lifestyle management and provide a more intense personal interaction with their patients overall, by seeing them for longer and more frequent visits. It might appear that more questions are asked in this study than are answered. Further study of physician practice behavior in the United States, in France, and in other nations might help to identify best practices that could be applied in many global settings.

Acknowledgments and disclosures: The authors would like to thank ***Ms Lori Metivier*** *for all of her efforts in supporting the survey.* ***Dr Gilbert Hebbrecht*** *provided critical comments on the French translation of the survey and provided critical reviews of the manuscript during preparation. The leadership of the French Society of General Medicine was integral to the successful recruitment of French physicians for the survey.* ***Dr Claude Lenfant*** *played a critical role in focusing the hypothesis and establishing the bi-national contacts. Dr Schuster has received funding from the Consortium for Southeastern Hypertension Control for other project efforts, which, in turn, has received funding from Pfizer. Dr Duhot has received grants from Lilly and French Society of General Medicine (SFMG) has a partnership with Sanofi-Aventis.*

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