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Support for National Health Insurance among U.S. Physicians: A National Survey

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Background: **Nearly 40 million persons in the United States were without health insurance for all of 2000. National health insurance would remedy this situation, and many believe the success of reform efforts in this direction may depend on physician support.**

Objective: **To determine the general attitudes of U.S. physicians toward the financing of national health care.**

Design: **Cross-sectional study.**

Setting: **National mailed survey.**

Participants: **3188 randomly sampled physicians from the American Medical Association Physician Masterfile.**

Measurements: **Physicians were asked whether they support or oppose 1) governmental legislation to establish national health insurance and 2) a national health insurance plan in which all health care is paid for by the federal government. Weighted multivariate logistic regression analyses were performed to identify factors that independently predicted support for each of these strategies.**

Results: **Sixty percent of eligible participants returned a survey. Forty-nine percent of physicians supported governmental legislation to establish national health insurance, and 40% opposed it. Only 26% of all physicians supported a national health insurance plan in which all health care is paid for by the federal government. In analyses adjusting for differences in personal and practice characteristics, physicians in a primary care specialty, physicians reporting that at least 20% of their patients had Medicaid, and physicians practicing in a nonprivate setting or in an inner-city location were statistically significantly more likely to support governmental legislation to establish national health insurance.**

Conclusions: **A plurality of U.S. physicians supports governmental legislation to establish national health insurance. This support may be relevant to the success of future efforts to reform national health care.**

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See editorial comment on pp 858-859.

Nearly 40 million persons in the United States were without health insurance for all of 2000 (1). Several proposals that would have guaranteed health insurance to U.S. citizens have been defeated over the past century (2–4). Many believe that opposition by major medical organizations and lack of physician support have been instrumental in the failure of several of these proposals (2–4). Understanding physician attitudes toward national health care reform may be highly relevant to the success of any future proposal.

Previous physician surveys have found attitudes toward national health insurance to be mixed and changing over time (5–10). Some of these surveys were limited by poor response rates (6) or by sampling of only select physician subgroups (7–10). In addition, some past surveys have assessed physician attitudes in the context of specific health care reform proposals (5). The last major national survey of physician attitudes toward health care reform was conducted in the context of President Clinton's 1994 reform proposal (5). A decade later, the attitudes of U.S. physicians toward financing a national health care system are unclear. Although the principal goal of such a national health insurance plan is to arrange health care financing for all U.S. citizens, specific proposals must address not only the mechanism of financing but also potentially controversial strategies for issues such as service coverage, delivery of care, and cost containment (11). In the context of specific health care reform proposals, it is unclear whether survey responses reflect attitudes toward health care financing in general or sentiments about a particular plan.

We found no published studies that focused specifically on general physician attitudes about the financing of national health care. Therefore, we designed this study to discern these attitudes and to determine whether they differ by physicians' personal or practice characteristics.

METHODS

Participants

We sampled survey recipients from the American Medical Association (AMA) Physician Masterfile, which is recognized as the most complete and accurate list of licensed physicians in the United States. Through Direct Medical Data, a private company in Skokie, Illinois, that manages and distributes data from the Masterfile through an agreement with the AMA, we sampled 3250 physicians. Of these, 2500 made up a simple random sample from a pool of 773 188 total physicians. After removing this general sample from the master list, we obtained additional simple random samples of 375 participants from the remaining list of all surgeons and 375 participants from the remaining list of all physicians who graduated from medical school after 1990. We oversampled surgeons to ensure adequate statistical power to test a priori hypotheses that predictors of support might differ between physicians in surgical and nonsurgical specialties. Because we also hypothesized that practice experience during past political de-

Context

Data about U.S. physicians' attitudes toward a national health insurance program are lacking.

Contribution

This survey of U.S. physicians suggests that 49% support national health insurance and 26% support federal financing of all care under such a program. With the exception of family practitioners, anesthesiologists, and surgical subspecialists, more than half of physicians in major specialties supported national health insurance. Support was highest among pediatricians, psychiatrists, and general internists.

Implications

Support of a national health insurance program is substantial among U.S. physicians but varies by specialty. Support of federal financing is less enthusiastic. This information will help to inform proposals for health insurance reform.

–The Editors

bates over national health care reform might influence physician support, we also oversampled physicians who graduated from medical school after 1990. We believed that this would provide an adequate sample of physicians who entered practice after the defeat of the Clinton health care reform proposal in 1994. After we excluded physicians with addresses outside the United States, our mailing list included 3188 potential recipients. With a 10% false address rate and a 50% response rate, our responding sample could provide, with 95% confidence, an accurate estimate of the views of 773 188 U.S. physicians with a sampling error of less than 3%.

All participants were mailed the survey along with a prepaid return envelope and a $1 incentive. We assured all recipients that participation was voluntary and that responses would remain anonymous. Recipients were instructed to return the survey unanswered if they did not wish to participate. Those not responding were contacted up to 3 additional times at 1-month intervals between July and October 2002. The University of Washington Institutional Review Board approved the study.

Survey

Our 1-page survey took approximately 3 minutes to complete. The cover letter and survey header made it clear to participants that the survey was about health care financing, not about specific plans to achieve universal health care. The instructions were followed by 2 questions (**Figure 1**) and asked recipients to respond on a 5-point Likert scale corresponding to "strongly support," "generally support," "neutral," "generally oppose," and "strongly oppose." We chose the 2 questions after a reiterative pretesting process that involved feedback from survey experts, health policy specialists, and physicians. We used this process to determine whether questions elicited responses that would gauge physician views on legislation to establish national health insurance as well as on achieving that goal by having the federal government act as the sole health care payer. After a review by knowledgeable colleagues and analysts, we evaluated the cognitive qualities of these main survey questions using both "think-aloud" and retrospective interviewing strategies (12). Because of resource limitations, we did not perform formal pilot testing to verify consistent question interpretation in a larger subsample of survey recipients.

The remainder of the survey consisted of 10 questions asking the participants to supply their primary specialty; professional organization affiliations; year of medical school graduation; training status; sex; primary practice structure; primary practice community; and percentage of patients currently seen who had Medicare, Medicaid, or no insurance.

Statistical Analysis

We used inverse probability weights to correct for disproportionate sampling of particular physician subgroups when presenting data on overall physician attitudes. Because 2 major physician groups (surgeons and those who

Figure 1. **Main survey questions.**

Although proposals for national health insurance may offer different strategies for service coverage, service delivery, and cost containment, please answer the next 2 questions assuming that the principal goal of any national health insurance proposal is to arrange health care financing for all U.S. citizens. Circle one response for each.

	Strongly Support	Generally Support	Neutral	Generally Oppose	Strongly Oppose
1. In principle, do you support or oppose governmental legislation to establish national health insurance?	1	2	3	4	5
2. Do you support or oppose a national health insurance plan where all health care is paid for by the federal government?	1	2	3	4	5

had graduated from medical school since 1990) were oversampled in our study, we divided respondents into 4 separate weighting groups: 1) nonsurgeons who graduated before 1990, 2) nonsurgeons who graduated during or after 1990, 3) surgeons who graduated before 1990, and 4) surgeons who graduated during or after 1990. We used data from the AMA Physician Masterfile to estimate the total number of U.S. physicians in each of these 4 groups when calculating our sampling weights. The probabilities used to determine these weights were 1 in 590, 1 in 513, 1 in 223, and 1 in 187, respectively. For statistical comparisons, we condensed "strongly support" and "generally support" responses into a single "support" category and "strongly oppose" and "generally oppose" responses into a single "oppose" category. We used logistic regression to assess relationships between demographic and professional characteristics and attitudes toward national health insurance. Multivariate models were adjusted for covariates chosen a priori, including sex; year of graduation; training status; specialty distinction; practice setting; practice location; and self-reported proportions of patients on Medicare, on Medicaid, and without insurance. In adjusted analyses, we dichotomized proportions of patients receiving Medicare, patients receiving Medicaid, and uninsured patients into categories of "low" and "high" using the approximate median values for each of those insurance options. We excluded neutral respondents from adjusted analyses to determine major predictors of support or opposition. Calculations were performed using the Stata statistical package, version 7.0 (Stata Corp., College Station, Texas).

Role of the Funding Sources

The funding sources had no role in the design, conduct, or reporting of the study or in the decision to submit the manuscript for publication.

RESULTS

Sample

Of 3188 mailed surveys, 338 were returned by the post office with no forwarding address and 121 were returned by nonpracticing physicians. We received 1650 surveys from the 2729 eligible participants, yielding an effective response rate of 60%. This response rate varied less than 3% among the large random sample of 2101 physicians and the 2 random oversamples of 310 additional recent medical school graduates and 318 additional surgeons. Because of missing data for individual questions, not all totals equaled 1650. Respondents were similar to nonrespondents in sex and years since medical school graduation. Response rates did not vary substantially by major specialty category (primary care, 60%; surgeons, 62%; subspecialists, 59%). **Table 1** shows the major characteristics of respondents from our general random sample of all physicians from the AMA Physician Masterfile.

Table 1. **Characteristics of 1263 Respondents from the General Random Sample Compared with the American Medical Association Physician Masterfile***

Characteristic	Respondents	Entire AMA Physician Masterfile
Men, %	76	76
Completed residency or fellowship, %	91	84
Mean time since medical school graduation, *y*	20.7	NA
Primary practice specialty, %†		
General medicine	12	14
Medical subspecialty	12	11
General pediatrics	7	7
Pediatric subspecialty	3	2
General surgery	5	5
Surgical subspecialty	11	9
Family medicine	12	11
Emergency medicine	5	4
Psychiatry	6	6
Anesthesiology	5	5
Obstetrics–gynecology	7	6
Mean reported insurance types, %‡		
Medicare	31	NA
Medicaid	20	NA
Uninsured	12	NA
Primary practice setting, %§		
Group private practice	32	NA
Solo private practice	18	NA
University medical center	19	NA
Community hospital	16	NA
Health maintenance organization	3	NA
Public health or community clinic	2	NA
County hospital	2	NA
Primary practice location, %		
Urban, inner city	20	NA
Urban, non–inner city	33	NA
Suburban	33	NA
Rural	14	NA

* Does not include physician respondents from 2 random oversamples of additional surgeons and additional recent medical school graduates. AMA = American Medical Association; NA = not publicly available.
† Sum does not equal 100% because of additional specialties that amounted to less than 5% of the total sample. More than half of this remaining 15.3% of physicians was composed of 4 specialty categories: neurology (1.7%), ophthalmology (2.4%), pathology (2.4%), and radiology (3.9%).
‡ Mean reported percentage of patients with Medicare, Medicaid, or no insurance.
§ Sum does not equal 100% because 8% of physicians reported an "other" unspecified practice setting.

Attitudes about National Health Insurance Financing

Our survey found that 49% of physicians supported legislation to establish national health insurance ("strongly support," 18%; "generally support," 31%) and 40% opposed it ("strongly oppose," 21%; "generally oppose," 19%) (**Table 2**). Twenty-six percent of physicians supported a single federal payer system ("strongly support," 9%; "generally support," 17%), and 60% opposed it ("strongly oppose," 33%; "generally oppose," 27%). However, among the 49% of all physicians who indicated support for governmental legislation to establish national health insurance, 61% supported a single federal payer option to achieve that goal. Among major practice specialties, pediatricians and psychiatrists were most supportive of legislation to establish national health insurance, while anesthesiologists and surgical subspecialists (neurosurgeons, or-

Table 2. **Physician Attitudes about National Health Insurance Financing**

Survey Question and Response	Value, %
In principle, do you support or oppose governmental legislation to establish national health insurance?	
Support (total)	**49**
Strongly support	18
Generally support	31
Neutral	**11**
Oppose (total)	**40**
Generally oppose	19
Strongly oppose	21
Do you support or oppose a national health insurance plan where all health care is paid for by the federal government?	
Support (total)	**26**
Strongly support	9
Generally support	17
Neutral	**14**
Oppose (total)	**60**
Generally oppose	27
Strongly oppose	33

thopedists, urologists, or those completing a fellowship after general surgery training) were least supportive (**Figure 2**).

In analyses adjusting for potential differences in other personal and practice characteristics, several predictors of support were statistically significant (**Figure 3**). Physicians in primary care specialties, those reporting that at least 20% of their patients received Medicaid, those not in private practices, and those practicing in the inner city were more likely to support legislation to establish national health insurance than were their respective counterparts. Among those indicating support for legislation to establish national health insurance, physicians in primary care specialties and those not in private practice were statistically significantly more likely to indicate "strong" (rather than "general") support than were their counterparts. In addition, among all physicians who supported the general principle of governmental legislation to establish national health insurance, the single federal payer option was particularly appealing to physicians in primary care specialties. Seventy-one percent of 190 primary care physicians in this group indicated support for the single federal payer option, compared with 58% of non–primary care physicians in this group ($P = 0.05$).

Conversely, our survey indicated that opposition to governmental legislation to establish national health insurance was related to a few particular physician characteristics. For example, 53% of physicians who reported that fewer than 20% of their patients had Medicaid and 52% of physicians who reported that fewer than 10% of their patients had no insurance opposed this principle. Similarly, 59% of surgical subspecialists, 59% of anesthesiologists, 73% of physicians in rural practice locations, and 54% of physicians in private practice settings opposed governmental legislation to establish national health insurance. In analyses adjusting for potential differences in other personal and practice characteristics, physicians in private practice ($P < 0.001$), those practicing outside the inner city ($P = 0.002$), and those reporting that fewer than 20% of their patients had Medicaid ($P = 0.018$) were more likely to oppose governmental legislation to establish national health insurance than were their respective counterparts. Among physicians who opposed legislation to establish national health insurance, those who were male ($P = 0.003$), those who graduated from medical school before

Figure 2. **Physician support for national health insurance (*NHI*) financing by practice specialty.**

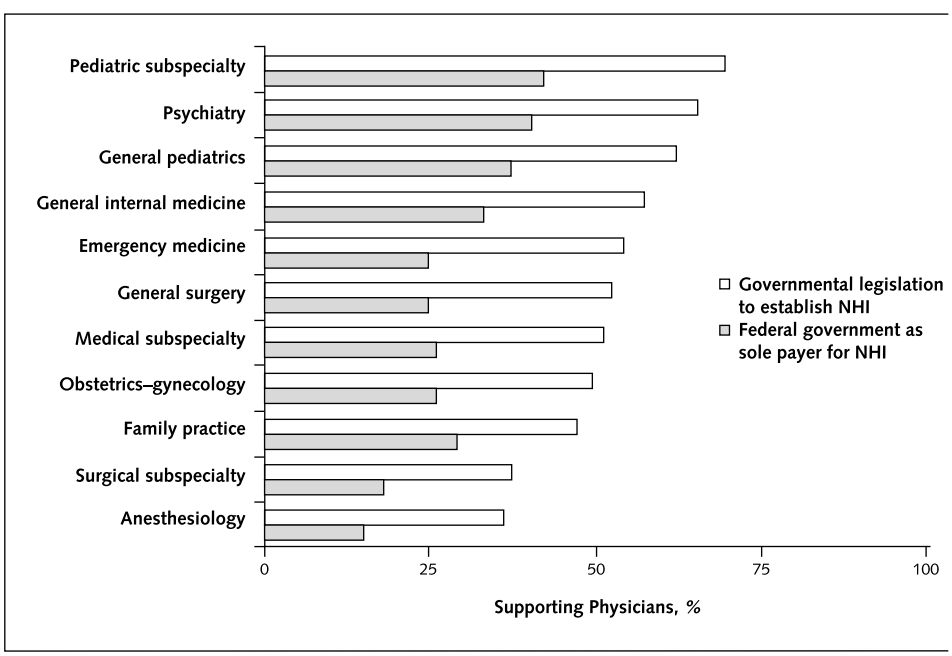
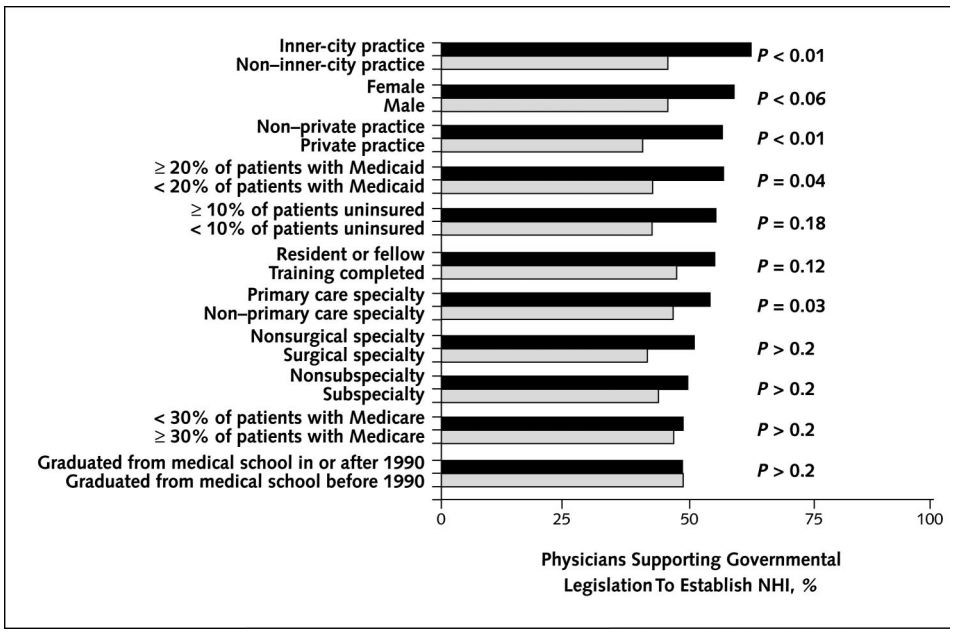


Figure 3. **Predictors of physician support for governmental legislation to establish national health insurance (*NHI*).**



1990 ($P = 0.017$), those who were in private practice settings ($P = 0.017$), and those who were not categorized as subspecialists ($P = 0.024$) were significantly more likely to indicate "strong" (rather than "general") opposition than were their respective counterparts.

Discussion

Although our study indicates that more U.S. physicians support governmental legislation to establish national health insurance than oppose it, physician opinion on this topic remains mixed. In addition, only 26% of all U.S. physicians support a system in which the federal government is the sole payer for health care services. In analyses adjusting for differences in personal and practice characteristics, we found that respondent physicians who were in a primary care specialty, those who reported that at least 20% of their patients had Medicaid, those who practiced in a nonprivate setting, and those who were located in an inner city were statistically significantly more likely to support governmental legislation to establish national health insurance. With the exception of anesthesiologists, family practitioners, and surgical subspecialists, more than half of physician respondents in major practice specialties supported the principle of establishing national health insurance through governmental legislation.

There is arguably some face validity to the finding that physicians with lower patient care continuity and greater exposure to underinsured patient populations are less likely to oppose the principle of governmental action to expand health care financing. However, we were surprised to find that fewer than 50% of family practitioners supported governmental legislation to establish national health insurance. One possible explanation is that some relevant personal or practice characteristics of family practitioners differ from those of other primary health care providers. Although a detailed evaluation of these potential differences was beyond the scope of this study, we found that family practitioners were more likely than other primary health care providers (that is, general internists or general pediatricians) to be located in rural areas (20% vs. 11%; $P = 0.007$). Since rural physicians were less supportive of governmental legislation to establish national health insurance than were physicians in urban and suburban locations, less support among family practitioners might be explained, in part, by the fact that a greater proportion are located in rural settings.

We were also surprised that the overall level of physician support for governmental action to establish national health insurance was not higher. Although we found a majority of support in several important subgroups, none of these subgroups represented a majority of all U.S. physicians. For example, although 62% of physicians practicing in inner-city locations supported governmental legislation to establish national health insurance, fewer than one fifth of all physicians were located in inner cities. Similarly, of all practicing U.S. physicians, only approximately 24% were women, 27% were in primary care specialties, 42% reported that at least 20% of their patients received Medicaid, and 48% reported being in nonprivate practice settings. Because the strongest support for governmental legislation was concentrated within minority physician subgroups, overall support remained less than 50%.

Although differences in wording, format, and context make comparisons with other physician surveys difficult, we found no previous studies reporting that a plurality of U.S. physicians supports governmental action to guarantee

health insurance for all citizens. A recent Harris Interactive poll found that 81% of physicians felt that at least some "fundamental change" is needed to make the current system more workable (13). This was a substantial increase above the 57% who wanted "fundamental change" when the Clinton health care reform proposal was defeated in 1994. This poll also found a similar growing discontent with the current health care system among large, medium, and small employers; health plan managers; and the general public. Our study enhances the findings of this poll by demonstrating that a substantial proportion of U.S. physicians support establishing national health insurance through governmental legislation. In addition, our survey identifies specific physician characteristics that are related to opposition or support of this financing strategy.

Our study has the typical limitations of self-report surveys, such as response bias and an inability to establish a causal relationship between differences in personal and professional characteristics and physician attitudes. However, we had a return rate of 60% from a large physician sample that was similar in demographic characteristics to the entire AMA Physician Masterfile. Furthermore, we found no statistically significant differences in response rates or in major characteristics of responding and nonresponding physicians across any major specialty categories. The survey's simple design, focus on physician attitudes about general strategies for guaranteeing health care financing, and timing outside the context of any major national proposals for health care reform may have avoided some of the potential biases inherent to previous physician surveys about national health insurance. Conversely, it is conceivable that some respondents may have misinterpreted the wording of 1 or both of the major study questions. Because we did not perform more exhaustive pilot testing to assess the cognitive qualities of our major study questions within larger subsets of our sample, we cannot be certain that each question was interpreted consistently across all physician specialties and practice settings. If the questions were not interpreted consistently, the level of physician support for establishing national health insurance through governmental legislation could be misrepresented. It is also possible that support for governmental legislation to establish national health insurance in principle may not predict supportive action toward particular "real world" proposals for health care reform. However, although the future actions of supportive or "neutral" respondents may be less predictable, it is likely that physicians who oppose the principle of governmental legislation to establish national health insurance will indeed oppose specific plans that are based on this financing strategy.

At the very least, this survey "takes the pulse" of the general state of support among U.S. physicians for governmental action to arrange health insurance financing. It also improves our understanding of how the level of this support varies across different personal, professional, and practice characteristics. Because physician attitudes may be relevant to policymakers interested in the timely design of a more widely acceptable national health care reform proposal, the reasons underlying the opposition of major financing principles warrant further research. Through a better understanding of physician attitudes toward the financing of national health insurance, we can better predict the overall acceptability of future reform proposals designed to address the increasing number of uninsured Americans.

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References

1. **Mills RJ.** Health Insurance Coverage: 2000. Current Population Reports. Washington, DC: U.S. Census Bureau, U.S. Department of Commerce, Economics and Statistics Administration; 2001:1-19.

2. **Rothman DJ.** A century of failure: health care reform in America. J Health Polit Policy Law. 1993;18:271-86. [PMID: 8360450]

3. **Falk IS.** Proposals for national health insurance in the USA: origins and evolution, and some perceptions for the future. Milbank Mem Fund Q Health Soc. 1977;55:161-91. [PMID: 406581]

4. **Starr P.** The Social Transformation of American Medicine. New York: Basic Books; 1982.

5. **Blendon RJ, Kohut A, Benson JM, Donelan K, Bowman C.** Health system reform. Physicians' views on the critical choices. JAMA. 1994;272:1546-50. [PMID: 7966852]

6. Physicians differ on health care reform measures. Bus Health. 1992;10:46, 48-50, 52. [PMID: 10121900]

7. **Scanlan A, Zyzanski SJ, Flocke SA, Stange KC, Grava-Gubins I.** A comparison of US and Canadian family physician attitudes toward their respective health-care systems. Med Care. 1996;34:837-44. [PMID: 8709664]

8. Internists' attitudes about health care reform. Internist. 1993;34:32-4. [PMID: 10124448]

9. **Millard PS, Konrad TR, Goldstein A, Stein J.** Primary care physicians' views on access and health care reform: the situation in North Carolina. J Fam Pract.

1993;37:439-44. [PMID: 8228854]

10. **Malter AD, Emerson LL, Krieger JW.** Attitudes of Washington State physicians toward health care reform. West J Med. 1994;161:29-33. [PMID: 7941503]

11. **Bodenheimer TS, Grumbach K.** Understanding Health Policy. In: Reinhardt S, Coffey CL, Greenfield S, eds. A Clinical Approach. 2nd ed. San Francisco: Lange Medical Books/McGraw-Hill; 1998.

12. **Dillman DA.** Mail and Internet Surveys: The Tailored Design Method. 2nd ed. New York: J Wiley; 2000.

13. **Taylor H, Leitman R.** Attitudes toward the United States' Health Care System: Long-Term Trends. v 2. Rochester, NY: Harris Interactive; 2002:1-6.

I went to my medical man. He is an old chum of mine, and feels my pulse, and looks at my tongue, and talks about the weather, all for nothing, when I fancy I'm ill; so I thought I would do him a good turn by going to him now. "What a doctor wants," I said, "is practice. He shall have me. He will get more practice out of me than out of seventeen hundred of your ordinary, commonplace patients, with only one or two diseases each." So I went straight up and saw him, and he said: "Well, what's the matter with you?"

I said: "I will not take up your time, dear boy, with telling you what is the matter with me. Life is brief, and you might pass away before I had finished. But I will tell you what is not the matter with me. I have not got housemaid's knee. . . . Everything else, however, I have got.". . .

He sat me down and wrote out a prescription. . .It ran: 1 lb. beefsteak, with 1 pt. bitter beer every 6 hours. 1 ten-mile walk every morning. 1 bed at 11 sharp every night. And don't stuff up your head with things you don't understand.

Jerome Jerome
Three Men in a Boat
London: Penguin Books; 1957:3-4.

Submitted by:
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Submissions from readers are welcomed. If the quotation is published, the sender's name will be acknowledged. Please include a complete citation (along with page number on which the quotation was found), as done for any reference.–*The Editor*

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