Impact of Reimbursement Systems on Child Psychiatrists: A Comparison of Canada and the United States

AUDREY R. NEWELL, M.D., AND GREGORY M. SALTZMAN, PH.D.

ABSTRACT

Objective: This study measured satisfaction of US and Canadian child psychiatrists with quality of care in their field and behaviors of their payers. **Method:** US and Canadian child psychiatrists were surveyed concerning time spent on billing paperwork, waiting times for psychiatrist reimbursement and patient treatment, and their satisfaction with psychiatric services and behaviors of payers. Initial and two nonresponder follow-up mailings of the survey were sent in 1992 to all 83 Canadian members of the American Academy of Child and Adolescent Psychiatry and a random sample of 212 US members. **Results:** Canadians were significantly more satisfied than Americans with the quality and affordability of services for both inpatients and outpatients. Canadians were less likely to think that third-party payers were annoying or affected their clinical decision-making. Canadians spent less time on billing-related paperwork and received payment more promptly. Canadians, however, reported significantly longer waits for both inpatients and mildly ill outpatients, but not for severely ill outpatients. **Conclusions:** Canadian child psychiatrists were significantly more satisfied with the quality of psychiatric services and the behaviors of their payers, but Canadian patients experienced longer waits. *J. Am. Acad. Child Adolesc. Psychiatry,* 1995, 34, 10:1326–1335. **Key Words:** health insurance, mental health services, reimbursement mechanisms, Canada, health care reform.

The Canadian single-payer reimbursement system has been cited as a potential model for US health care reform (Detsky, 1993). For example, one study identified large potential savings in administrative costs by adopting a Canadian-style system in the United States (Woolhandler et al., 1993). Another study, based on a survey of physicians in the United States, Canada, and West Germany, found that 33% of Canadian physicians think their nation's health care system works well, versus 23% in the United States (Blendon et al., 1993). Similarly, a survey of family practice and internal medicine residents found that resident physicians in Canada were significantly less likely than those in the United States to say that "inadequate access to health care is a major problem" in their country (18% in Canada versus 75% in the United States) and that there are "too many controls on [the] medical profession" (58% in Canada versus 81% in the United States) (Hayward et al., 1991).

Fewer studies have focused specifically on the impact of the reimbursement system on individual medical specialties. Psychiatry provides an especially instructive example because the early attention psychiatry has received in the United States from managed-care reviewers may foretell the impact of managed care on other medical specialties if current trends in the United States continue (Jellinek and Nurcombe, 1993). Many American psychiatrists are dismayed by the intervention of managed-care companies, as indicated by the publication of a toll-free "Managed Care Hotline" telephone number on the first page of every issue of the American Psychiatric Association newspaper, *Psychiatric News.* The question is whether psychiatry has fared any better under the Canadian system.

Some previous studies address this issue. An early analysis of the Canadian system by Liptzin (1977) reported that the Ontario Health Insurance Plan

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Dr. Newell is Lecturer and Research Fellow in Psychiatry, University of Michigan School of Medicine. Dr. Saltzman is Associate Professor of Economics and Management, Albion College, and Adjunct Assistant Research Scientist, Institute of Labor and Industrial Relations, University of Michigan, Ann Arbor.

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Reprint requests to Dr. Newell, Department of Psychiatry, University of Michigan Medical Center, Ann Arbor, MI 48109.

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(OHIP), unlike most insurance plans in the United States, did not discriminate against psychiatry in covering medical services. A survey of Ontario psychiatrists conducted by Lippman et al. (1981) 8 years after OHIP was implemented (replacing a private insurance system like that in the United States) found that 70% of Ontario psychiatrists thought that OHIP had been beneficial to them, and 86% thought it had been beneficial to their patients. Beiser et al. (1985) compared matched groups of schizophrenic patients in Portland, Oregon, and Vancouver, British Columbia. Nineteen percent of the American patients and 17% of the Canadians were under age 20. Beiser et al. found that the extensive community care available to psychiatric patients under the Canadian system had notable benefits to Vancouver schizophrenics, including lower rates of hospital readmission, greater likelihood of employment, and a higher reported level of well-being than among the Portland schizophrenics.

In this study, we examine the impact of reimbursement systems on child psychiatrists. We surveyed Canadian and American child psychiatrists in 1992 to compare practice under Canada's single-payer system and the current US system. We also queried American physicians on the performance of different US payers.

METHOD

We developed two very similar versions of a two-page questionnaire, one for Canadians and the other for Americans. (Copies of both versions are available from the authors upon request.) Questionnaires were mailed in 1992 to all 83 Canadian members of the American Academy of Child and Adolescent Psychiatry (AACAP) and to a random sample of 212 American members of AACAP, selected from the *AACAP Membership Directory* (1992). (We expected some persons in the sample to be no longer practicing medicine or no longer reachable at their AACAP address. Because we wanted a final sample size of 200, we chose to mail surveys to a dozen more persons than that.) Nonrespondents were sent a second and, if necessary, a third copy of the questionnaire.

The population of AACAP members is not identical with the population of child psychiatrists, but there is considerable overlap. In the United States, there were 4,855 AACAP members in 1992 (*AACAP Membership Directory*, 1992, p. 130), whereas the American Medical Association (1992, p. 62) reported that 4,343 physicians listed their primary specialty as child psychiatry. AACAP membership in the United States was thus 112% of the number of child psychiatrists reported by the American Medical Association.

Precise data on the number of child psychiatrists are not available for Canada. Canada does not have subspecialty board certification for child psychiatry distinct from the general certification in psychiatry; and neither the Royal College of Physicians and Surgeons (which administers the certification process), the Canadian Medical Association, nor other Canadian medical organizations we contacted had information on the number of child psychiatrists. The Canadian Psychiatric Association informed us, however, that approximately half of Canadian psychiatrists belong to their organization, that 37 of their members listed child psychotherapy as an area of interest, and that 235 listed "adolescent and young adult psychiatry" as an area of interest (personal communication with Joanne Giese, Canadian Psychiatric Association, February 24, 1995). Because some of the 235 primarily or exclusively treated young adults rather than children or adolescents, the 83 Canadian members of AACAP probably constituted a substantial fraction of the child and adolescent psychiatrists in Canada. Nevertheless, AACAP membership may be somewhat less representative of the population of child and adolescent psychiatrists in Canada than in the United States. Hence, our data are best interpreted as measuring differences between US and Canadian AACAP members.

Four Canadian surveys and 15 American surveys either were returned by the post office as undeliverable or were returned blank with notes that the person surveyed was no longer practicing medicine (because of retirement, death, or a career change), so that the final samples consisted of 79 Canadians and 197 Americans. Of these, 61 Canadians returned the survey (a response rate of 77%), as did 113 Americans (a response rate of 57%). (Forty-one Canadians responded to the first mailing, 11 to the second, and 9 to the third. Seventy-three Americans responded to the first mailing, 24 to the second, and 16 to the third.)

We used two methods to determine whether the samples of respondents were representative of AACAP members and, hence, whether our sample means are unbiased estimators of population means. First, we compared the mean values of the answers given by those responding to the each of the three mailings, to see whether those who responded promptly gave different answers than did those who responded only after the second or third request. We found that there were only 4 cases of differences that were statistically significant at the 5% level, out of 144 comparisons: first mailing versus second, first versus third, and second versus third, each for 48 variables. By chance alone, however, one would expect 7.2 cases to be different at the 5% level. Thus, the persons responding to the first mailing appear similar to the reluctant responders. On this basis, it seems reasonable to conclude that the persons who did not respond at all would likewise not differ much from the respondents with regard to the answers they would have given to the survey.

The second method we used to determine whether sample selection bias influenced our results was to compare characteristics of respondents and nonrespondents, using information from the *Canadian Medical Directory* (1993) and *The Official ABMS Directory of Board Certified Medical Specialists* (1993). For the United States, we compared respondents and nonrespondents with regard to percent female, percent in each of six regions (New England, New York, Mid-Atlantic, Midwest, South, and West), percent board certified, and, for those who were board certified, age. (Published age figures were not available for the approximately one third of the US psychiatrists surveyed who were not board certified.) For Canada, we compared respondents and nonrespondents with regard to percent female, percent in each of four regions (Western Canada, Ontario, Quebec, and Atlantic Provinces), and year of medical school graduation. All the Canadians, both respondents and nonrespondents, were board certified (although the requirements for board certification in Canada differ from those in the United States).

In six of the seven comparisons between respondents and nonrespondents, the differences were statistically insignificant even at the 25% level (using an F test for the regional differences and a

two-tailed t test for differences in percent female, age, and year of medical school graduation), suggesting that the respondents were quite representative of the population surveyed. In the United States, however, board-certified psychiatrists were more likely than noncertified psychiatrists to respond to the survey ($p < .02$). The slight overrepresentation of board-certified psychiatrists among our US respondents (74% of the respondents, compared to 67% of the entire sample sent the survey) could have influenced some of our US-Canadian comparisons, as noted in the "Results" section.

Canadian and US sample means were calculated for all variables. For cardinal variables (e.g., number of hours, or percent of bills), we used a two-sample t test to determine whether the national differences in means were statistically significant, using a two-tailed test. Some of our variables, however, were ordinal rather than cardinal: the possible responses were very satisfied, somewhat satisfied, neutral, somewhat dissatisfied, very dissatisfied; or strongly agree, agree, neutral, disagree, strongly disagree. Direct comparison of means for such variables requires the perhaps unrealistic assumption that the difference, for example, between very satisfied and somewhat satisfied is the same as the difference between somewhat satisfied and neutral.

We therefore analyzed national differences in ordinal variables using an ordered probit model, which avoids the bias that arises from treating ordinal data as cardinal (Zavoina and McElvey, 1975). This model assumes that there is some underlying cardinal variable (satisfaction or agreement) that the survey measures using ordinal response categories. In our case, this model takes the following form:

$$\text{Response Level} = a_0 + a_1{*}\text{Canada} + \mu_1 + \mu_2 + \mu_3$$

where Response Level is an ordinal variable coded 0 (very dissatisfied or strongly disagree), 1 (somewhat dissatisfied or disagree), 2 (neutral), 3 (somewhat satisfied or agree), or 4 (very satisfied or strongly agree), Canada is a dichotomous variable, equal to 0 for Americans and 1 for Canadians, and μ_1, μ_2, and μ_3 are estimated threshold levels for the underlying cardinal variable (satisfaction or agreement) separating different ordinal response categories.

We estimated this model using the Limdep, Version 6.0, statistical package.

The estimated parameter of interest here is a_1, the coefficient for Canada. Assessing the magnitude of this coefficient is complicated in an ordered probit model: one gets different estimates of the impact of national differences depending on whether one is considering a shift, for example, from agree to strongly agree, or from neutral to agree. The sign of the coefficient for Canada, however, is easy to interpret: positive values of a_1 indicate that Canadians are more satisfied than Americans, or more likely to agree with the statement; negative values indicate that Canadians are less satisfied or less likely to agree. Furthermore, the p values from the ordered probit model (reported here using a two-tailed t test) are interpreted in exactly the same way as the p values from a two-sample comparison of means.

We also analyzed differences among payers, such as private insurance and Medicaid. We did this by calculating sample means and ordered probit coefficients for subgroups of the Canadian and American samples, with respondents grouped according to the payer for half or more of their child psychiatry income. Essentially, we assumed that psychiatrists getting half or more of their income from a single source (e.g., private insurance) would give greatest weight to their experience with that source when responding to our survey. Thus, we used differences between the responses of the subgroup getting half or more of their income from Medicaid and the subgroup getting half or more of their income from private insurance as an indication of differences in the practices of these two payers. In addition, we compared the responses of Canadians getting half or more of their income from provincial government fees to those of American subgroups.

RESULTS

US-Canadian Differences

Canadian child psychiatrists are significantly more likely than Americans (1) to be satisfied with the psychiatric services delivered to patients, (2) to feel that third-party payers have a favorable impact on their clinical practices, and (3) to be paid promptly for their services. The evidence for these findings is presented in detail in Tables 1 to 7. These tables show, for each variable in the survey plus additional variables computed from the survey answers, the sample mean for each country. In addition, Tables 6 and 7 (which report results for ordinal variables) provide the ordered probit coefficient for the dichotomous variable equal to one for Canadians, as well as the p value for the null hypothesis that being Canadian has no effect on the response category. (We omitted from Tables 6 and 7 the estimated coefficients and p values for the intercept term and the thresholds between response categories, which are not of interest here.) Instead of ordered probit results, Tables 1 through 5 (which report results for cardinal variables) show the p value for the null hypothesis that the Canadian mean does not differ from the US mean.

The characteristics of the psychiatrists in our sample are shown in Tables 1 through 3. Americans had more diversified payment sources, with patient payments and private insurance each accounting for about one fourth of child psychiatry income and other sources, the remainder (Table 1). Nevertheless, the term "single-payer system" is a bit of a misnomer for Canada: only two thirds of the child psychiatry income for Canadian AACAP members came from provincial government fees; almost 10% came from patient payments.

The Canadians and Americans in our sample were similar in the number of years of experience in child psychiatry (defined in our survey to include years of child fellowship), the fraction of their time spent on consult-liaison work, and the fraction spent on child and adolescent work (Table 2). Still, there were some respects in which the Canadian and American child

TABLE 1
Sources of Income for Canadian and American Child Psychiatrists

Variable[a]: % of Income from	Mean Value (%)		
	Canada	US	p^b
Patient payments	10	25	.001
Provincial government fees	66	NA	NA
Medicare	NA	2	NA
Medicaid	NA	5	NA
Private insurance	NA	26	NA
Community mental health	5	8	.47
Other agency	5	15	.02
University salary	14	20	.25

Note: NA = not applicable.
[a] The number of persons answering the question corresponding to each of these variables was 60 of the 61 Canadians responding to the survey and 109 of the 113 Americans.
[b] Based on a two-tailed t test for the difference in means.

psychiatrists spent their working time differently. Canadians spent relatively less time on inpatient work (10% versus 24%, $p = .001$) and relatively more on outpatient work than did their American counterparts. We obtained further information about how psychiatrists spent their time with the following survey question:

Approximately how many hours per week do you spend on:

- Direct patient care (face to face)
- Paperwork needed for clinical reasons (chart notes)
- Paperwork needed to collect your bills (insurance forms, chart notes justifying what you are doing in order to get paid for it, direct patient billing, etc.)
- Administration not related to payment issues
- Research
- Other work

The answers to this question indicated that Canadians spent more time on direct patient care than did Americans (29 hours per week versus 26, $p = .18$) and more hours per week on research (4.4 hours versus 1.7, $p = .004$) (Table 3).

The information on how psychiatrists spent their time provides an indication of the administrative burden that the Canadian and American reimbursement systems place on child psychiatrists. As Table 3 shows, Canadians spent less time on billing-related paperwork (1.3 hours versus 3.8, $p < .001$). Canadian psychiatrists appeared to use that time instead for direct patient care, spending 2.5 fewer hours per week than Americans on billing paperwork but 2.9 more hours per week on patient care. Expressed another way, for every 100 hours spent on direct patient care, the average Canadian

TABLE 2
Practice Mix and Experience of Canadian and American Child Psychiatrists

Variable[a]	Mean Value		
	Canada	US	p^b
Percent of time spent on			
Inpatient	10	24	.001
Outpatient	75	59	.001
Consult-liaison	10	9	.51
Percent of respondents spending at least 5% of time on inpatient work[c]	37	61	.002
Percent of time spent on child and adolescent work	80	73	.12
Years practicing child psychiatry	15.3	13.5	.26

[a] The n ranged from 58 to 60 for Canada and 109 to 113 for the United States.
[b] Based on a two-tailed t test for the difference in means.
[c] Computed from the survey responses for percentage of time spent on inpatient work.

TABLE 3
Time Spent on Work Tasks: Differences between Canadian and American Child Psychiatrists

Variable[a]	Mean Value[b] Canada	US	p^c
Hours per week spent on			
Direct patient care	29.2	26.3	.18
Paperwork for clinical reasons	5.1	6.2	.16
Paperwork to collect bills	1.3	3.8	<.001
Administration not related to payment issues	6.2	4.5	.06
Teaching	4.2	3.4	.22
Research	4.4	1.7	.004
Other work	2.6	3.7	.31
Total hours per week	52.6	49.7	.20
Ratio of billing hours to direct patient care hours (%)	4.9	16.0	<.001

[a] The *n* ranged from 59 to 60 for Canada and 110 to 113 for the United States.
[b] Variables were measured in hours per week, except for the ratio of billing hours to direct patient care hours. This ratio and the total hours per week were computed from the values of the other variables, as given in the survey response.
[c] Based on a two-tailed *t* test for the difference in means.

child psychiatrist spent only 4.9 hours on billing-related paperwork, whereas the average American child psychiatrist had to spend 16.0 hours ($p < .001$).

We also asked psychiatrists how long it took to get paid for their services. It was apparent from the survey answers that respondents interpreted the billing time categories in our survey instrument as mutually exclusive, rather than as cumulative. For example, figures for the percent of bills paid "within 120 days" were generally lower than those for "within 30 days." We therefore interpreted "within 60 days" to mean "in 31 to 60 days" and "within 120 days" to mean "in 61 to 120 days."

Canadian child psychiatrists were only slightly more likely than Americans to be paid within 30 days (43% of bills for Canadians versus 41% for the United States), but Canadians were much more likely than Americans to get paid within 60 days (92% of bills paid versus 64%, $p < .001$) (Table 4). Furthermore, while a negligible percentage of Canadian psychiatrists' bills were paid after 120 days (0.2%) or not at all (0.3%), 10% of American psychiatrists' bills were paid after 120 days ($p < .001$) and 9% were not paid ($p < .001$).

Although Canadian psychiatrists had shorter waits than Americans to receive payment for their services, they perceived their patients to have longer waits to receive care. Canadian psychiatrists reported an average wait for patients to get into an inpatient hospital of 29 days, versus 10 days reported by American

TABLE 4
Delays in Receiving Payment for Services: Differences between Canadian and American Child Psychiatrists

Variable[a]: % of Bills Paid in	Mean Value (%) Canada	US	p^b
0–30 days	43	41	.77
31–60 days	49	23	<.001
0–60 days[c]	92	64	<.001
61–120 days	7	17	.008
>120 days	0.2	10	<.001
Not paid	0.3	9	<.001

[a] The *n* was 56 for Canada and ranged from 77 to 80 for the United States.
[b] Based on a two-tailed *t* test for the difference in means.
[c] Computed by adding together the percentages given in the survey responses for "within 30 days" and "within 60 days."

TABLE 5
Perceived Delays in Receiving Treatment: Differences between Canadian and American Child Psychiatrists

Variable[a]: Days Patients Must Wait To Get	Mean Value		p^b
	Canada	US	
Into an inpatient hospital	29	10	<.001
Outpatient psychiatric care (severely ill)	24	19	.30
Outpatient psychiatric care (mildly ill)	77	27	<.001

[a] The *n* ranged from 49 to 56 for Canada and 98 to 99 for the United States.
[b] Based on a two-tailed *t* test for the difference in means.

psychiatrists ($p < .001$) and an average wait of 77 days for outpatient care for mildly ill child and adolescent patients, versus 27 days reported by Americans ($p < .001$) (Table 5). The difference in waiting time for outpatient care for severely ill child and adolescent patients, however, was smaller in magnitude (24 days versus 19) and statistically insignificant.

Despite longer perceived waiting times for treatment, Canadian child psychiatrists were more satisfied than American psychiatrists were with the psychiatric services provided to their patients (Table 6). The difference was particularly pronounced for services provided to severely mentally ill outpatients, though the Canadians were also more satisfied with services provided to inpatients and to mildly ill outpatients.

We asked psychiatrists: "How satisfied are you with the delivery of psychiatric services to severely mentally ill child and adolescent inpatients in your area? To severely mentally ill child and adolescent outpatients? To mildly mentally ill outpatients?" We listed four attributes of care for each of the three patient groups: quality of services, frequency of appointments, affordability, and availability. Thus, there were 12 dependent variables measuring satisfaction with services provided to patients. The coefficient for Canada was positive (indicating that Canadians were more satisfied than Americans) for 10 of these; and in 6 of these 10 cases, the coefficient was significant at the 1% level or better. In the two cases where Canada had a negative coefficient (availability of services for inpatients and availability for

TABLE 6
Satisfaction with Delivery of Psychiatric Services: Differences between Canadian and American Child Psychiatrists

Variable[a]	Mean Value[b]		Ordered Probit Results Coefficient for Canada[c]	p^d
	Canada	US		
Severely mentally ill inpatients				
Quality of services	2.4	2.0	0.32	.06
Frequency of appointments	2.1	1.9	0.15	.39
Affordability	3.7	1.3	2.5	<.001
Availability	1.7	1.7	−0.014	.94
Severely mentally ill outpatients				
Quality of services	2.7	1.9	0.72	<.001
Frequency of appointments	2.3	1.6	0.63	<.001
Affordability	3.8	1.4	2.6	<.001
Availability	1.9	1.4	0.34	.06
Mildly mentally ill outpatients				
Quality of services	3.0	2.6	0.44	.01
Frequency of appointments	2.5	2.2	0.27	.12
Affordability	3.8	1.8	2.3	<.001
Availability	2.1	2.1	−0.032	.85

[a] The *n* ranged from 57 to 60 for Canada and 109 to 112 for the United States.
[b] Variables were coded so that higher means indicate greater satisfaction, ranging from very satisfied = 4 to very dissatisfied = 0.
[c] Dichotomous variable equal to 1 for Canada, 0 for the United States.
[d] Based on a two-tailed *t* test for the ordered probit coefficient.

TABLE 7
Perceived Effects of Third-Party Payers on Clinical Practices: Differences between Canadian and American Child Psychiatrists

Variable[a]	Mean Value[b] Canada	Mean Value[b] US	Ordered Probit Results Coefficient for Canada[c]	p^d
Very little effect on my clinical decision-making	2.9	1.7	0.99	<.001
Helpful to patients; improves quality of care	2.6	0.8	1.4	<.001
Takes up too much of my time	1.0	3.0	−1.7	<.001
Annoys me	1.3	3.0	−1.6	<.001
Makes me deliver care more efficiently	1.7	1.1	0.65	<.001
Encourages me to improve my clinical skills	1.5	1.0	0.48	.006
Insults me	1.1	2.4	−1.1	<.001
Invades my patients' privacy	1.1	2.9	−1.6	<.001

[a] The *n* ranged from 56 to 59 for Canada and 109 to 112 for the United States.
[b] Variables were coded so that higher means indicate greater agreement, ranging from strongly agree = 4 to strongly disagree = 0.
[c] Dichotomous variable equal to 1 for Canada, 0 for the United States.
[d] Based on a two-tailed *t* test for the ordered probit coefficient.

mildly ill outpatients), the coefficients were statistically insignificant (p = .94 and p = .85, respectively).

Moreover, if one uses the difference in means as a linear approximation for the impact of country on physician satisfaction, the magnitude of the country effect was often quite large. The national differences were largest for satisfaction with affordability of services: the average Canadian psychiatrist was closest to being "very satisfied" with affordability of services, whereas the average American psychiatrist was closest to being "somewhat dissatisfied" for severely ill inpatients or severely ill outpatients and on the "somewhat dissatisfied" side of "neutral" for mildly ill outpatients. In quantitative terms, with satisfaction measured on a scale from 0 to 4, the differences in the mean levels of satisfaction with affordability were very big: 2.4 points for severely ill inpatients (3.7 versus 1.3), 2.4 for severely ill outpatients, and 1.9 for moderately ill outpatients. The differences in mean levels of satisfaction with quality of services and frequency for severely ill outpatients were also large: 0.9 points and 0.7 points, respectively. Thus, the Canadian psychiatrists were generally more satisfied with the services provided to their patients. One can be fairly confident that the difference observed in satisfaction reflected a population difference rather than sampling error. Even more importantly, the magnitude of the difference was often large.

We also asked psychiatrists to assess the impact payers had on them. Specifically, our survey for Americans stated: "Government payors and third party payors have the following effects on my clinical practice." Our survey for Canadians stated: "Government payors have the following effects on my clinical practice." Below those statements were lists of possible effects, shown in Table 7. (To make respondents consider each question individually, we phrased questions so that a psychiatrist who was dissatisfied with payers would agree with some statements and disagree with others.)

The results show that Canadian child psychiatrists were more likely than American psychiatrists to think that third-party payers had beneficial effects on their clinical practices, and less likely to think that they had harmful effects. Specifically, Canadians were more likely than Americans to think that third-party payers (1) have very little effect on their clinical decision-making, (2) are helpful to patients and improve quality of care, (3) make them deliver care more efficiently, and (4) encourage them to improve their clinical skills. Moreover, Canadians were less likely than Americans to think that third-party payers (5) take up too much of their time, (6) annoy them, (7) insult them, and (8) invade their patients' privacy. All of these national differences were statistically significant at the 1% level. The magnitudes of these differences were also generally

quite large: for six of the eight variables, the difference between the mean values for Canadians and for Americans exceeded 1.0 on the scale from 0 to 4. There were no respects in which the Americans reported more favorable effects of third-party payers on their clinical practices than did the Canadians.

Differences among US Payers

In addition to making US-Canadian comparisons, we compared responses of different subgroups of American and Canadian child psychiatrists, according to the payer providing half or more of each person's child psychiatry income. Of the 113 Americans in the sample, 28 received half or more of their income from private insurance, 4 received half or more from Medicaid, and 8 received half or more from community mental health (CMH). Of the 61 Canadians, 44 received half or more of their income from provincial government fees. The small size of the Medicaid and CMH subgroups makes some of the findings about different US payers tentative rather than definitive; but in the absence of an extensive body of literature on this subject, these findings merit at least brief presentation. (Appendix tables that present these results in more detail are available from the authors upon request.)

The overall US-Canadian differences shown in Tables 1 to 7 apply to the subgroups as well. Regardless of whether one compares all Canadians to all Americans, or Canadians receiving half or more of their income from provincial government fees to Americans receiving half or more of their income from private insurance, Medicaid, or CMH, the results are largely the same. The Canadians had a more favorable impression of their payers than the Americans did; Canadians spent fewer hours on billing paperwork per hour of direct patient care; Canadians were more likely to be paid within 60 days; and Canadians were less likely to have to wait more than 120 days for payment or not to be paid at all. The longer waiting times for Canadian patients were statistically significant only in comparison to the American psychiatrists receiving half or more of their income from private insurance; but it is plausible that differences in waiting times would also be significant for the Medicaid and CMH subgroups had larger samples of Medicaid and CMH psychiatrists been available. Thus, the problems that American child psychiatrists have with the reimbursement system are not confined to any one payer, and the advantage that American patients have with waiting time may not be, either.

We also compared results for different American payers. American psychiatrists receiving half or more of their income from CMH were less likely than those receiving half or more from private insurance to say that third-party payers took up too much of their time ($p = .04$) or annoyed them ($p = .001$). On the other hand, American CMH psychiatrists perceived longer waiting times than private insurance psychiatrists did for severely ill outpatients ($p < .001$) and mildly ill outpatients ($p < .001$). Similarly, Medicaid psychiatrists perceived longer waits than private insurance psychiatrists did for severely ill outpatients ($p = .05$) and mildly ill outpatients ($p = .02$).

Differences between Board-Certified and Noncertified Americans

As noted in the "Method" section, board-certified Americans were slightly overrepresented among our American respondents. The question then is how this overrepresentation may have affected our results. Board-certified Americans were significantly more likely than noncertified Americans to say that payers affected their clinical decision-making ($p < .02$) or that payers were not helpful to patients and did not improve quality of care ($p < .01$). On average, board-certified Americans also spent more hours per week than noncertified Americans did on direct patient care ($p < .02$), perceived longer waiting times for severely ill outpatients ($p < .05$), received more of their income from direct patient payments ($p < .01$) and less from university salary ($p < .01$), and had been in practice more years ($p < .01$). For the remaining survey questions, however, differences between board-certified and noncertified American respondents were statistically insignificant, suggesting that the greater tendency of board-certified psychiatrists to respond to the American survey probably had little effect on the US-Canadian comparisons for those questions.

DISCUSSION

Child psychiatrists working in the Canadian single-payer system are more satisfied with quality of care and much more satisfied with the behaviors of their payers than were those working in the United States. Canadians spend less of their time on billing-related

paperwork, per hour of direct patient care. These differences persisted even if one considered only those American child psychiatrists receiving half or more of their income from private insurance; the negative perceptions of Americans were not confined to those relying heavily on Medicaid, for example.

The variables measured here are not the only ones relevant to an assessment of the desirability of adopting a single-payer plan in the United States. For example, physicians would want to know the impact of adopting such a reimbursement system on their net incomes, and physicians and others would want to know whether a single-payer system would be as cost-effective in the United States as it is in Canada. Nonetheless, the evidence presented here that psychiatrists are more satisfied with quality of care and behaviors of payers under a single-payer system needs to be seriously considered when escalating costs, an increasing number of uninsured, and growing provider concern about the impact of managed care on clinical practice force Congress to revisit the issue of health care reform.

Blendon et al. (1990) raised the issue of whether surveys of the general public showing that Canadians were more satisfied than Americans with their health care system reflected cultural differences, with Canadians having a more positive outlook generally, rather than specific views concerning the health care system. They reported, however, that Americans were more optimistic than Canadians about the future and at least as satisfied with the nation's direction in general, which led them to the conclusion that "Canadians' views on health care are not being shaped solely by their more positive general attitudes. Rather, they are more satisfied than Americans specifically with their health system" (Blendon et al., 1990, p. 190). Assuming that the US-Canadian differences in general outlook are no greater among child psychiatrists than among the public at large, one can similarly conclude that Canadian child psychiatrists are more satisfied than American child psychiatrists specifically with the quality of care under their system and the behavior of their payers.

What psychiatrists wrote at the end of the survey, in response to an open-ended invitation for comments, confirms this story. For example, one Canadian reported that the insurance paperwork was so simple that this psychiatrist's 13-year-old child handled all of it. In contrast, one American wrote:

> It's a battle to convince a hostile [insurance company] reviewer that a really sick child should get benefits. The attitude seems to be that we child and adolescent psychiatrists are trying to unnecessarily hospitalize and treat children and adolescents. Despite the recent PIA hospital scandal, in our area there are so few of us that children can wait 8+ weeks just for an evaluation—only the neediest or most desperate are served. Many don't receive needed treatment, so I find this attitude on the part of third party payers lacking in validity and in respect to the patients and practitioners.

Although this person's comments cannot be taken as representative of the views of all American psychiatrists, it was telling that several Americans—but none of the Canadians—wrote comments of that nature. Several Canadians did complain that reimbursement was provided in Canada only for face-to-face contact with the patient, and not for consultations provided to schools, group homes, or other health care providers; but in this respect, Canada does not appear to differ much from the United States.

Waiting times, however, are longer in Canada, especially for nonurgent cases. Quite possibly, it is the Canadian reimbursement system, which provides universal access and has no out-of-pocket costs for covered services, that has caused demand for psychiatric services to exceed the supply. In part, however, longer waits for services of subspecialists such as child psychiatrists may stem from Canada's emphasis on primary care. On a per capita basis, Canada has many more private-practice general practitioners and family physicians than the United States does, but fewer specialists and subspecialists, as reported in a study of national data for the United States and Canada and state/provincial data for Iowa and Manitoba by Fuchs and Hahn (1990). Whereas the United States has 15.7 psychiatrists per 100,000 people (American Medical Association, 1992, p. 43), we have calculated that Canada has only 11.5 (Health Canada, 1993, pp. 184, 185, 189). A fruitful topic for future research would be to determine whether Canada has shorter waits for primary care, where Canada has a larger per capita supply.

Furthermore, under the Canadian system, resources were selectively made available to the sickest patients, as indicated by the greater US-Canadian discrepancy in waiting time for mildly ill psychiatric outpatients than for severely ill outpatients, and the comment that 9 of the 61 Canadians wrote on their questionnaire to the effect that waiting times were shorter in emergency cases. These findings mirror US-Canadian comparisons on waiting times for magnetic resonance

imaging, where the discrepancy was much greater for patients with a minor orthopedic problem than for patients with a suspected brain tumor (Morgan, 1993; Weinstock, 1993).

Cost problems remain even under a single-payer system: in 1993, when Ontario found itself over budget for physician services, the OHIP instituted an across-the-board 2.8% "clawback" of fees for the year, under which physicians were required to repay OHIP 2.8% of their billings (personal communication with Katherine Harvey, Ontario Medical Association, November 30, 1994). This global budgeting approach, however, did not discriminate in any way against mental health care, and it avoided some serious drawbacks of American managed-care plans, such as subjecting providers to time-consuming and annoying reviews of individual patient care plans.

No matter what the reimbursement system, resources (such as psychiatrists' time) will be limited. The Canadian single-payer system has the signal advantage of putting a higher proportion of those limited resources into direct patient care and less into billing-related paperwork. Because it provides universal coverage and comprehensive benefits in the face of limited resources, the Canadian system does impose waits for nonurgent cases, but we find that preferable to the common American practice of denying care to those without the ability to pay for it. Finally, as the chairman of the board of regents of the American College of Surgeons noted in announcing his group's endorsement of a single-payer system, such a system would preserve patients' right to choose their physician and the autonomy of physicians to make their own medical decisions (Stout and Anders, 1994).

REFERENCES

American Academy of Child and Adolescent Psychiatry (1992), *American Academy of Child and Adolescent Psychiatry Membership Directory, 1992/1993.* Washington, DC: AACAP

American Medical Association (1992), *Physician Characteristics and Distribution in the US.* Chicago: American Medical Association

Beiser M, Shore JH, Peters R, Tatum E (1985), Does community care for the mentally ill make a difference? A tale of two cities. *Am J Psychiatry* 142:1047–1052

Blendon RJ, Donelan K, Leitman R et al. (1993), Physicians' perspectives on caring for patients in the United States, Canada, and West Germany. *N Engl J Med* 328:1011–1016

Blendon RJ, Leitman R, Morrison I, Donelan K (1990), Satisfaction with health systems in ten nations. *Health Aff* 9:185–192

Canadian Medical Directory (1993), Don Mills, Ontario: Southam Business Communications

Detsky AS (1993), Northern exposure: can the United States learn from Canada? *N Engl J Med* 38:805–807

Fuchs VR, Hahn JS (1990), How does Canada do it? A comparison of expenditures for physicians' services in the United States and Canada. *N Engl J Med* 323:884–890

Hayward RA, Kravitz RL, Shapiro MF (1991), The US and Canadian health care systems: views of resident physicians. *Ann Intern Med* 115:308–314

Health Canada (1993), *Health Personnel in Canada 1991.* Ottawa: Health Canada

Jellinek MS, Nurcombe B (1993), Two wrongs don't make a right: managed care, mental health, and the marketplace. *JAMA* 270:1737–1739

Lippman DH, Lowy FH, Rickhi B (1981), Attitudes of Ontario psychiatrists towards health insurance. *Can Med Assoc J* 125:167–170

Liptzin B (1977), The effects of national health insurance on Canadian psychiatry: the Ontario experience. *Am J Psychiatry* 134:248–252

Morgan BC (1993), Patient access to magnetic resonance imaging centers in Orange County, California. *N Engl J Med* 328:884–885

Official ABMS Directory of Board Certified Medical Specialists (1993), New Providence, NJ: Marquis Who's Who

Stout H, Anders G (1994), Surgeons back "single-payer" health reform. *Wall Street Journal* February 11, A3–A4

Weinstock SJ (1993), More on patient access to magnetic resonance imaging centers. *N Engl J Med* 329:435–436

Woolhandler S, Himmelstein DU, Lewontin JP (1993), Administrative costs in US hospitals. *N Engl J Med* 329:400–403

Zavoina RD, McElvey W (1975), A statistical model for the analysis of ordinal level dependent variables. *J Math Sociol* 4:103–120