

Medical Service Provision and Costs: Do Walk-In Clinics Differ from Other Primary Care Delivery Settings?

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Les récentes réductions dans le financement des services de santé par les gouvernements provinciaux et fédéral ont dirigé l'attention sur l'efficacité de l'administration des soins de santé, particulièrement sur l'administration des services de soins de base. Nous utilisons des données extraites de la base de données des réclamations du Régime d'Assurance-Santé de l'Ontario pour évaluer les différences entre les cliniques sans rendez-vous et autres fournisseurs de soins de base en ce qui a trait aux coûts de la visite initiale, aux coûts des visites de suivi, à la duplication des services et aux diagnostics traités. Notre analyse indique que la réputation généralement négative des cliniques sans rendez-vous est largement imméritée. Les cliniques sans rendez-vous diffèrent très peu de la pratique en bureau en termes de coûts totaux, de pourcentages de patients vus à plusieurs reprises et de coûts de suivi. Les coûts relativement élevés des soins de base administrés dans les salles d'urgence combinés au fait qu'une assez large part des visites dans les salles d'urgence sont pour des conditions mineures suggèrent que l'éducation des patients sur le bon usage des salles d'urgence ou l'offre d'alternatives, comme les services de triage téléphonique, devraient résulter en une réduction des coûts des soins de santé.

Reductions in health care funding by both the federal and provincial governments in recent years have focused attention on the cost-effectiveness of health care delivery, particularly on the delivery of primary care services. We use data extracted from the Ontario Health Insurance Plan (OHIP) claims database to assess differences between walk-in clinics and other primary care delivery settings in initial visit costs, follow-up visit costs, service duplication, and diagnoses treated. Our analysis indicates that the generally negative reputation of walk-in clinics is largely undeserved. Walk-in clinics differ very little from office-based practices in terms of overall costs, the percentage of patients seen again, and follow-up costs. The relatively high costs of primary care provided in emergency departments combined with the fact that a fairly large share of visits to emergency departments are for self-limiting conditions suggest that patient education on the proper use of emergency departments or providing alternatives, such as telephone triage services, should result in health care cost savings.

INTRODUCTION AND BACKGROUND

Reductions in health care funding by both the federal and provincial governments in recent years have focused attention on the cost-effectiveness of health care delivery, particularly on the delivery of primary care services. The relatively rapid and widespread growth of walk-in clinics over the past decade has created the potential for significant changes in the delivery of primary care services by physicians. During the mid-to-late 1980s the number of known walk-in clinics in Ontario increased rapidly. Polling results indicate that approximately one-third of Ontario residents visit these clinics annually (Decima Research 1993).

Both government and the medical profession viewed the emergence of this new health care delivery mechanism as contributing to the growth in the utilization and cost of medical services. General and family practitioners on the other hand viewed walk-in clinics as “poaching” on traditional office-based practices and questioned the ethics of physicians who saw the unreferred patients of another physician. General and family physicians have mainly criticized the efficacy of the services provided and the appropriateness of the fees charged by walk-in clinics. In particular, it has been argued that walk-in clinics

- fail to provide the continuum of care essential for the longer term health care of patients;
- generate wasteful use of limited health care resources or “double doctoring,” since their patients tend to follow-up with their family doctor where the services, both assessments and diagnostic tests, are often repeated. Such service duplication increases the financial constraints of the medical profession by contributing to growth in the use of medical services;¹
- provide services that are not as intense or complex, on average, as those provided in other primary care practice settings such as a family prac-

tice office because patients with chronic and/or difficult-to-treat conditions are less likely to use a walk-in clinic than are patients with relatively minor episodic illnesses. This may result in a form of “cream-skimming” in the sense that payment is received by the clinic for servicing a comparatively healthier and more easily treated segment of the patient population;

- treat a relatively high proportion of patients for the first time, and therefore a high proportion of their billing is for comprehensive, and hence costly, assessments.

Recent health-sector reforms implemented in British Columbia and the widespread consideration of primary care reforms, such as patient rostering and capitation payment, currently being considered across Canada are aimed at eliminating or alleviating some of the concerns expressed by critics of walk-in clinics. In British Columbia, physicians approved limits on fee-for-service payments on high volume practices. Specifically, the fees of general and family physicians providing more than 47 office visits for certain services in a day are discounted by at least 50 percent (British Columbia Medical Association 1995).

Despite diverse and strongly held views concerning walk-in clinics by many physicians, as well as the concerns of governments about the increased service volume and costs associated with their growth, there has been very little research on the topic. The main impediment to systematic study of these clinics in Ontario, and other Canadian jurisdictions, has been the lack of data. There is no database that identifies walk-in clinics, the services they provide, and the patients they serve.

The research that has been done in Canada indicates, among other things, that patients choose walk-in clinics for convenience, that they tend to be very satisfied by the service, and that about one-quarter of patients who go to walk-in clinics saw their family practitioner within a week following their visit.

However, these results are difficult to generalize to the overall population, given that they are often based on small local samples and/or self-reported survey data. For example, one study looked at the patients of nine family practices in Edmonton (Bell and Szafran 1992), another at 34 clinics in Ontario (Miller *et al.* 1989), and another, at about 300 patients of a single clinic in Toronto (Rizos *et al.* 1990).

The purpose of this study is to characterize and compare differences between walk-in clinics and other primary care delivery settings, namely after-hours clinics, traditional office-based family practices, and emergency departments in hospitals, in terms of initial visit costs, follow-up visit costs, service duplication, and diagnoses treated.

DATA SOURCE AND METHODOLOGY

With the introduction of the Government of Ontario's Social Contract Plan in early 1993, the Ontario Medical Association and the Ministry of Health examined a number of areas of potential health care cost savings. Walk-in clinics were one such area. Since OHIP program statistics cannot differentiate between office-based practices and walk-in clinics, identification of the clinics would normally be a problem. However, because of a concern that walk-in clinics and after-hours clinics may have been inappropriately billing an after-hours premium code restricted to office-based practices, the Ministry of Health, in 1991, undertook a process to identify practice types. The walk-in clinics in the sample were identified by OHIP during registration for a billing number (in the case of new practices), and through telephone calls made from each OHIP district office to likely facilities listed in the Yellow Pages of the local telephone book. Emergency rooms were known to OHIP; other types of practices were identified based on the hours of practice of the facility, and whether patients booked appointments or were accepted as walk-ins. Practices with extended hours which accepted patients without appointments were considered to be walk-in clinics. Practices that

restricted their hours of practice to evenings and/or weekends and who accepted patients without appointments were considered to be after-hours clinics. All other practices were deemed to be office-based.

Services provided in a hospital emergency department are readily identifiable because physicians bill either a "Daytime Special Visit to Emergency Department" or "Out-Patient Department" premium, or one of the assessment codes listed under the "Emergency Department — Physician on Duty" category. Non-primary-care situations in which a consultation was billed were excluded from the analysis. The identification permitted the Ministry of Health to produce a series of tabular data to determine if primary care provided in walk-in clinics is more costly than primary care provided in other settings, and if patients, after having been to a walk-in clinic, perhaps unnecessarily saw their regular family physician on follow-up.

Although the OHIP claims database lacks qualitative data on such things as patient satisfaction with services received, it does provide valuable information on patient condition, that is, diagnosis; services provided and follow-up services; and the location of those services. OHIP reviewed some 60 million submitted claims for services provided by physicians during the first quarter of 1991 (between 1 January to 31 March 1991). Any individuals who received a service from a pediatrician, general or family physician in a walk-in clinic, or emergency department delivery setting were identified and extracted.² Information was then gathered on the diagnosis and on all medical services received on the day of the initial visit and for the subsequent nine days. Although the OHIP database contains abundant diagnostic information, some have expressed concerns about the diligence physicians exercise in completing claims submissions. Comparisons between diagnoses reported by surveyed general and family physicians and the three-digit OHIP diagnostic codes (the foundation of which is the ICD-9 coding system) submitted by general and family physicians on claim cards, suggests that they are generally

attentive to the need to provide an accurate diagnostic code on the claim submission, but this is by no means assured (Weinkauf and Rowland 1992). In the case of subsequent visits in the ten-day period following the initial visit (the day of the initial visit and nine days following), OHIP identified: services that were referred by the physician to another physician, unreferred services provided by another physician, and services provided by the same physician as in the initial visit. OHIP data were supplemented by information collected from a survey of a panel of physicians, described below.

The patient count exceeded the number of individuals seen by physicians since individuals were counted as more than one patient during the period if they consulted a pediatrician, a general or family physician, or received services in a walk-in clinic or emergency department following the initial ten-day period. As such, the patient count was permitted to exceed the total number of discrete patients seen by physicians during the period.

Unfortunately, more recent OHIP data are unavailable because OHIP did not continue the identification process. In addition, given that only hard copy summary data were produced by OHIP, rather than raw data, the analysis is limited to those tabular summaries provided. However, these data are unique and no other systematic system-wide data have been, nor can be, produced. Although OHIP still has the original list of billing numbers and the associated practice type category from 1991, the practice type category may have changed. A practice identified as a walk-in clinic in 1991, if still active, could have subsequently become an after-hours clinic or an office-based practice.³ Finally, there is no assurance that practice patterns have not changed somewhat since 1991.

RESULTS

Before we present the detailed findings of our research, let us briefly summarize the main results:

- walk-in clinics accounted for only 3 percent of total initial visit costs. Office-based practices provided very little weekend work while emergency departments provided a high proportion of care on weekends.
- A review of initial visit data by diagnosis indicates that emergency departments and office-based practices deal with a broader range of patient complaints/illnesses. A relatively large proportion of initial visits to walk-in clinics and after-hours clinics relate to upper respiratory infections or ailments. These conditions are generally self-limiting and might be considered to be some of the less serious conditions presented to a general or family physician.
- The cost of follow-up services (within a ten-day window) provided to emergency department patients exceeded initial visit costs by almost 170 percent. In addition, the average cost per patient of initial visits, as well as for referrals, was highest in the emergency department setting. These higher costs may be indicative of the relatively more serious illness of patients who visit emergency departments.
- There is little evidence of a higher degree of “double doctoring” of walk-in clinic patients relative to patients receiving care in the other primary care settings. The data indicate walk-in clinic patients do not routinely return to their family practitioner to be treated for the same condition.

Case-Mix

Physician billings totalling \$615 million were captured by the methodology described in the previous section, and compared to total billings by all physicians in 1991 of \$3,688 million. Of the \$615 million, 35 percent (\$214 million) related to the cost of the initial visit fees. Walk-in clinics accounted for only a small proportion of total initial visit costs, approximately 3 percent of the total cost of initial visits, with after-hours clinics accounting for about 2 percent, office-based practices about 83 percent,

and emergency department visits about 12 percent of the total. The cost of all services provided on the first day (patients may receive services in addition to the assessment) amounted to \$338 million, or 55 percent of the total costs captured. Follow-up costs, then, represented the remaining 45 percent of total primary care visit costs.

Table 1 presents a distribution of initial visits by day of the week. As expected, emergency departments and after-hours clinics provide a higher proportion of care on weekends than during the week, with one-third of all initial visits occurring on weekends. The workload of walk-in clinics was lowest on Sundays at roughly one-half the weekday volume. Saturday volumes were, however, only slightly lower than that of weekday levels. Office-based practices provided very little weekend work (only 4 percent of overall volume). Indeed, workload volumes on Sunday were less than one percent of the total number of initial visits. Given the small volume of weekend work provided by office-based practices it is perhaps not surprising that volume in after-hours clinics and emergency department settings is particularly high on those days. While walk-

in clinics receive a higher proportion of weekend visits than do office-based practices, it does not represent the bulk of their work; activity at walk-in clinics is fairly evenly distributed throughout the week.

Table 2 provides a distribution of initial visits by diagnosis. Only diagnoses representing one percent or more of total diagnoses are presented.⁴ We observe that office-based practices and emergency departments deal with a broader range of complaints. One-third of initial visits to walk-in clinics and 40.6 percent of visits to after-hours clinics relate to the following diagnoses: 460 — acute nasopharyngitis, common cold; 461 — acute sinusitis; 463 — acute tonsillitis; 466 — acute bronchitis; and 477 — allergic rhinitis, hay fever. This compares to 19.9 percent in office-based practices and 14.1 percent of encounters in emergency department settings. These conditions, loosely referred to as upper respiratory infections or ailments, are typically self-limiting and are referred to a specialist for consultation in just 2 percent of cases. Although these conditions are comparatively minor in nature, the associated medical assessment costs approach \$200 million (Weinkauf and Rowland 1992).

TABLE 1
Health Care Delivery Setting, Percentage Distribution of Initial Visits by Day of Week

<i>Day of Week</i>	<i>Walk-In</i>	<i>After Hours</i>	<i>Office</i>	<i>Emergency Department</i>	<i>Total</i>
Sunday	8.6	17.3	0.7	16.1	2.6
Monday	17.4	12.6	22.0	13.4	20.9
Tuesday	16.2	12.7	20.9	14.1	20.0
Wednesday	17.0	14.5	16.3	13.9	16.1
Thursday	15.1	11.8	20.7	12.9	19.7
Friday	13.9	11.4	16.2	13.5	15.8
Saturday	11.8	19.7	3.3	16.2	5.0
Total	100.0	100.0	100.0	100.0	100.0

Source: Special tabulations of OHIP data requested by the authors.

TABLE 2

Distribution of Initial Visits to Various Health Care Delivery Settings by Diagnosis and Probability of Follow-Up Within 3 and 10 Days of Initial Visit

	<i>Walk-In</i>		<i>After-Hours</i>		<i>Office</i>		<i>Emerg. Dept.</i>		<i>Prob[3]</i>	<i>Prob[10]</i>
	<i># Diag.</i>	<i>% Total</i>	<i># Diag.</i>	<i>% Total</i>	<i># Diag.</i>	<i>% Total</i>	<i># Diag.</i>	<i>% Total</i>		
009 Diarrhea	2,849	1.4	2,831	2.0	78,872	1.1	15,513	2.1	0.275	0.368
079 Oth Viral	1,958	0.9	3,267	2.3	57,919	0.8	6,551	0.9	0.065	0.200
250 Diag. Mel	880	0.4	104	0.1	142,351	2.0	4,038	0.6	0.174	0.405
278 Obesity	489	0.2	27	0.0	70,922	1.0	291	0.0	0.208	0.089
300 Anxiety	4,636	2.2	1,420	1.0	230,288	3.3	10,465	1.4	0.150	0.305
372 Conjunct	3,040	1.5	2,690	1.9	42,182	0.6	7,010	1.0	0.317	0.332
381 Ser. Otit	8,415	4.1	10,649	7.3	157,592	2.2	21,698	3.0	0.096	0.562
382 Supp O M	5,137	2.5	5,314	3.7	81,039	1.2	10,257	1.4	0.305	0.805
401 Hypert	3,116	1.5	560	0.4	447,699	6.4	4,211	0.6	0.033	0.265
412 Old Mi	90	0.0	33	0.0	87,128	1.2	2,646	0.4	0.164	0.297
460 C Cold	46,877	22.7	37,865	26.1	888,191	12.7	67,016	9.2	0.045	0.177
461 A. Sinus	4,146	2.0	3,878	2.7	91,375	1.3	4,332	0.6	0.058	0.364
463 A. Tonsil	3,384	1.6	4,904	3.4	65,475	0.9	7,986	1.1	0.083	0.320
466 A. Brond	9,054	4.4	11,219	7.7	297,540	4.2	22,135	3.0	0.113	0.495
477 Allerg	4,880	2.4	1,069	0.7	57,827	0.8	1,738	0.2	0.018	0.117
486 Pneum	1,094	0.5	1,039	0.7	36,766	0.6	7,778	1.1	0.255	0.918
487 Influa	1,468	0.7	3,212	2.2	81,424	1.2	6,850	0.9	0.139	0.235
493 Asthma	2,502	1.2	1,728	1.2	114,820	1.6	11,824	1.6	0.294	0.555
616 Cervic	2,068	1.0	1,085	0.7	74,034	1.1	2,033	0.3	0.132	0.468
626 Dis Menst	2,119	1.0	561	0.4	87,686	1.3	2,690	0.4	0.030	0.144
691 Eczema	3,734	1.8	3,097	2.1	125,899	1.8	5,780	0.8	0.029	0.283
709 Oth Skin	6,217	3.0	290	0.2	30,360	0.4	1,340	0.2	0.019	0.190
715 Osteoarth	601	0.3	256	0.2	123,032	1.8	2,699	0.4	0.007	0.116
724 Lumbarasp	1,716	0.8	985	0.7	115,231	1.6	7,137	1.0	0.068	0.450
780 NYD NS	2,023	1.0	1,322	0.9	135,894	1.9	16,260	2.2	0.425	0.650
781 NYD MUSC	7,177	3.5	1,439	1.0	173,252	2.5	15,343	2.1	0.082	0.277
785 NYD CS	2,076	1.0	1,263	0.9	111,827	1.6	24,874	3.4	0.745	0.740
786 NYD RS	4,109	2.0	845	0.6	68,730	1.0	7,122	1.0	0.363	0.568
787 NYD DS	4,743	2.3	2,086	1.4	173,988	2.5	31,749	4.3	0.176	0.487
788 NYD GUS	2,909	1.4	76	0.1	11,973	0.2	3,694	0.5	0.450	0.618
799 Other	5,583	2.7	1,593	1.1	117,634	1.7	11,046	1.5	0.318	0.587
842 Spr Hand	828	0.4	698	0.5	14,151	0.2	9,596	1.3	0.055	0.355
844 Spr Leg	669	0.3	584	0.4	25,355	0.4	7,368	1.0	0.064	0.337
845 Spr Foot	949	0.5	849	0.6	21,038	0.3	12,453	1.7	0.034	0.296
847 Spr Neck	1,383	0.7	862	0.6	64,359	0.9	7,893	1.1	0.051	0.389
854 Head Inj	387	0.2	427	0.3	6,320	0.1	10,923	1.5	0.505	0.432
879 Lacer	753	0.4	835	0.6	10,024	0.1	19,002	2.6	0.253	0.827
884 Lacer	827	0.4	640	0.4	6,869	0.1	14,725	2.0	0.450	0.805
895 Fam Plan	4,112	2.0	591	0.4	88,197	1.3	3,081	0.4	0.002	0.041
916 WBC	597	0.3	59	0.0	194,005	2.8	1,802	0.2	0.002	0.133
919 Abrash	1,550	0.8	1,865	1.3	44,585	0.6	34,129	4.7	0.083	0.180
930 FB Eye	529	0.3	534	0.4	5,086	0.1	8,042	1.1	0.673	0.359
959 Oth Inj	773	0.4	1,026	0.7	32,517	0.5	23,414	3.2	0.239	0.460
999 N/A	3,614	1.7	1,414	1.0	2,227	0.0	12,924	1.8	n/a	n/a
Subtotal	166,061	80.4	117,091	80.8	4,895,683	69.8	509,458	69.6		
Total	206,584		144,886		7,010,703		731,895			

Source: Authors' calculations using OHIP data.

TABLE 3
Expected Probability of Follow-up Visits by Delivery Setting

<i>Delivery Setting</i>	<i>Expected Probability of Follow-up Visit Within 3 Days</i>	<i>Expected Probability of Follow-up Visit Within 10 Days</i>
Walk-in Clinic	0.1012	0.2684
After-Hours Clinic	0.0992	0.2873
Office Practice	0.0883	0.2369
Emergency Department	0.1388	0.2902

Source: Authors' calculations using OHIP data.

As expected, those with chronic conditions such as obesity, hypertension, and osteoarthritis, were seen more frequently in office-based practices. Not expected, though, was the higher proportion of family planning encounters in walk-in clinics (2 percent of encounters compared to 1.3 percent of encounters in office-based practices). Although we cannot tell with certainty what type of service was provided, the higher proportion might be explained by the fact that it is relatively easier to get a routine pregnancy test in a walk-in clinic or that some patients are uncomfortable approaching their family physician (office-based) about family planning and prefer the “anonymity” of a walk-in clinic.

To supplement the case mix distribution information in Table 2, we undertook a survey of a panel of physicians, specifically the 18 members of the executive of the Section of General Practice.⁵ We asked these physicians to assign a probability of an appropriate response follow-up visit within three days and within ten days for each of the diagnoses presented in the table. A total of 13 physicians (72 percent) responded to our survey, the average probabilities of follow-up within three days, Prob[3], and ten days, Prob[10], for each diagnosis are presented in the last two columns of Table 2. Table 3 depicts the expected probability of follow-up visit for each practice delivery setting. These are the average probabilities of follow-up, assigned by the physician

panel for each diagnosis code, weighted by the distribution of diagnoses (i.e., case mix) across the different delivery settings. These values serve as indicators of case-mix severity for each delivery setting.

Results depicted in Table 3 reveal that the expected value of Prob[3] is fairly similar for the walk-in clinic, after-hours clinic, and office delivery settings ranging from about 8.8 percent to 10.1 percent. However, the expected probability of follow-up visits within three days of the initial visit is notably higher for emergency departments (13.9 percent). Emergency departments also have the highest expected probability of follow-up within ten days of the initial visit, 29 percent.

Initial and Follow-up Visit Costs

Table 4 shows the cost of visits provided to patients within ten days of the initial visit. The highest incidence of follow-up occurred with emergency department visits where the cost of medical services provided to patients in the ten days following the initial visit was 2.67 times the cost of the initial assessment. Seventy-three percent of subsequent costs of emergency department initial visits were attributable to services provided in settings other than those examined, the other category, which includes referrals for diagnostic testing and services provided by hospital-based specialists. Approximately 19 percent of subsequent costs were related to return

TABLE 4
Subsequent or Follow-up Visit^a Costs (\$)

Setting of Subsequent Visit:	Setting of Initial Visit											
	Walk-In		After Hours		Office		Emergency Department		Total			
	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%		
• Walk-In	1,301,735	20.2	14,655	0.4	409,696	0.2	99,511	0.1	1,825,597	0.7		
• After Hours	16,725	0.3	258,184	7.3	446,142	0.2	102,091	0.2	823,142	0.3		
• Office	640,265	9.9	849,463	24.0	35,172,579	17.8	5,474,901	7.8	42,137,209	15.2		
• Emergency Department	233,872	3.6	257,455	7.3	2,028,588	1.0	12,997,751	18.6	15,517,666	5.6		
• Other ^b	4,260,457	66.0	2,163,026	61.0	159,340,186	80.7	51,135,819	73.3	216,899,490	78.2		
Total: Subsequent (A)	6,453,054	100.0	3,542,783	100.0	197,397,191	100.0	69,810,073	100.0	277,203,104	100.0		
Total: Initial Costs (B)	5,703,463		3,843,246		178,198,266		26,117,892		213,862,867			
Ratio: (A ÷ B)	1.13		0.92		1.11		2.67		1.30			

Notes: ^aWithin ten days of initial visit.
^bIncludes testing and hospital-based services.

Source: Special tabulations of OHIP data requested by the authors.

visits to the emergency department, while 7.8 percent of the costs were for follow-up in office-based practices.

It may be expected that the higher costs of medical services following an emergency department visit may be indicative of a more serious illness on presentation.⁶ This is not entirely clear, though, since emergency department encounters excluded the more serious incidents in which a consultation was required by the physician on duty. Nevertheless, a review of Table 2 suggests that at least some of the difference in follow-up costs can be explained by diagnosis. Emergency department patients tend to be more likely to present with more serious ailments and less likely to present with less serious ailments such as the common cold. Furthermore, although the presenting diagnoses depicted in Table 2 indicate higher proportions of head injuries, sprains, and lacerations in emergency departments than occur in other settings, diagnoses for the more “routine” primary care conditions, such as common cold or acute bronchitis, represent a relatively large portion of encounters.

After-hours clinics had the lowest subsequent visit costs as a proportion of the initial visit costs (92 percent) of any group, the highest proportion of follow-up in office-based practices (24 percent) and the lowest portion of return visits to the same site (7.3 percent). This suggests that after-hours clinics are more focused on treating patients with episodic urgent and emergent primary care conditions that require less diagnostic follow-up.

Walk-in clinics do not differ very much from office-based practices in terms of the amount of follow-up. Subsequent visit costs exceed initial visit costs by 13 percent and 11 percent for walk-in clinics and office-based practices respectively. This is consistent with results presented in Table 3. It may be that walk-in clinics function as do office-based practices for most patients, although the higher proportion of subsequent visit costs to office-based practices (9.9 percent) makes it clear that this is not true of all patients.

Data presented in Table 4 indicate that walk-in clinics have proportionately lower costs associated with the Other category. This indicates that the volume of diagnostics and hospital-based services are lower than with office-based practices, and, while this could be because walk-in clinics are more circumspect in ordering diagnostic tests, it could also be that its patient population tends to have conditions which are, on average, less severe/complex and consequently do not warrant as many investigative procedures. This fits with the anecdotal evidence that patients to some extent understand the difference between walk-in clinics and general practice and sometimes will seek treatment for acute treatable problems, such as ear infections and strep throat at a walk-in clinic.

Double-Doctoring

We also examined the proportion of subsequent visit costs attributable to return visits to the same physician or to a different physician. In this case, the subsequent visits had to be provided within a 72-hour window of the initial visit (the day of the initial visit and two days following). The reason for the tighter time frame was to permit us to concentrate on the issue of double-doctoring where the subsequent visit may simply be confirmatory. We are assuming that a follow-up visit initiated by a physician to check on a patient’s response to treatment (a “necessary” visit) will in most cases be scheduled beyond 72 hours. By reducing the follow-up period from ten days to three days, we hoped to eliminate most of these necessary call backs by physicians and be left with the duplicate services initiated by patients.

Table 5 presents information on the value of services at the initial visit, during the first day, and within three days. The initial visit costs relate to assessments and other medical services that may be provided in conjunction with the assessment. For example, a physician may bill a minor assessment and an immunization fee. Referrals for diagnostic testing at the time of the initial visit would typically be captured under the Other category. However, if the treating physician performs the diagnostic test the

TABLE 5
Analysis of Double-Doctoring Within a 72-Hour Period by Health Care Delivery Setting

	<i>Setting of Initial Visit</i>						SUM	<i>% of Initial</i>		
	<i>Walk-In</i>	<i>% of Initial</i>	<i>After Hours</i>	<i>% of Initial</i>	<i>Office</i>	<i>% of Initial</i>			<i>Emergency Department</i>	<i>% of Initial</i>
Initial visit costs (\$)	5,703,463		3,843,246		178,198,266		26,177,892		213,862,867	
Initial number of patients	206,584		144,866		7,010,703		731,895		8,094,068	
<i>Patients Seen Again Within 72 Hours:</i>										
• By same MD (\$)	403,690	7.1	80,695	2.1	13,917,032	7.8	6,032,057	23.1	20,433,474	9.6
• Another MD (\$)	4,142,514	72.6	2,571,453	66.9	116,480,120	65.4	45,392,369	173.8	168,586,458	78.8
• Total (\$)	4,546,204	79.7	2,652,148	69.0	130,397,152	73.2	51,424,426	196.9	189,019,932	88.4
• Total Patients	55,711	27.0	36,730	25.4	1,589,304	22.7	308,792	42.2	1,990,537	24.6

Source: Special tabulations of OHIP data requested by the authors.

services would be included in the initial visit cost. Alternatively, if the diagnostics are referred and performed in a specialist's office, they would be shown under the Office category.

Our findings reveal that, as expected, the highest proportion of patients seen again (within a 72-hour window) was for patients who were initially treated in emergency departments. Forty-two percent of emergency department patients were seen by the same or another physician within the two days following the first day, and associated costs were 97 percent above the initial visit costs. Follow-up by the same emergency department physician generated costs equalling 23.1 percent of the initial visit costs, whereas follow-up costs from services provided by different physicians were 173.8 percent of the initial visit costs.

The percentage of patients seen again within 72 hours was lowest in office settings (22.7 percent) followed by after-hours clinics (25.4 percent) and walk-in clinics (27.0 percent). In all cases, the majority of follow-up costs involved being seen by another physician. For after-hours clinics, only 2.1 percent of the "patients seen again" costs relate to services provided by the same physician. In the case of office-based practices and walk-in clinics, the costs of services provided by the same physician on follow-up were nearly equal, 7.1 percent for walk-in clinics and 7.8 percent for office-based practices.

It is clear from these data, as well as those presented earlier, that walk-in clinic patients do not routinely return to their family practitioner to be treated or assessed for the same condition. The overall rate of "patients seen again" is four percentage points higher in walk-in clinics than it is in office-based practices, but the number of "patients seen again" in the same setting is slightly lower for walk-in clinics than it is in office-based practices. These findings are consistent with the results presented in Table 3 which indicate a slightly higher potential need for follow-up by walk-in clinic patients than office-based-practice patients. Furthermore, the fol-

low-up costs are roughly the same, walk-in clinics' cost per return patient is \$81.60 as compared to \$82.05 for office-based practices.

Average Costs of Visits

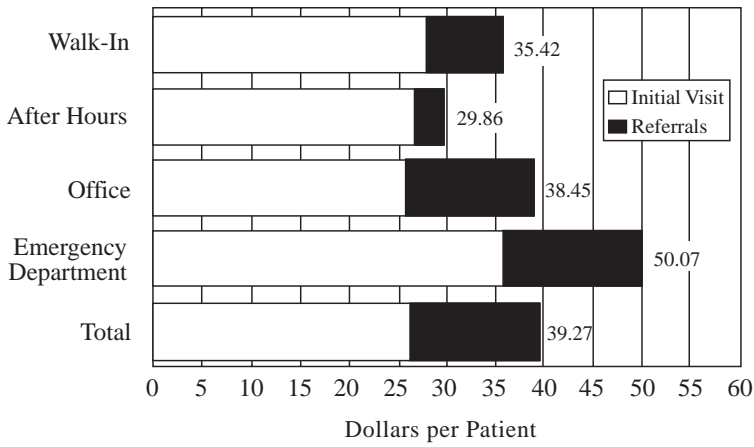
Average costs for the initial visit in walk-in clinics are 8.6 percent higher than they are for office-based practices, and 4.1 percent higher than for after-hours clinics (see Figure 1). Although walk-in clinics are billing a higher cost mix of medical services, the differences are not great. As such, we would challenge anecdotes about walk-in clinics billing higher proportions of the more expensive assessments.

Figure 2 shows the costs associated with referrals generated by the physician providing treatment in the initial visit. As a percentage of the initial visit costs, the cost of referrals are highest in office-based practices (51.3 percent); more than 20 percentage points higher than for walk-in clinics. This higher referral cost share for office-based practices is not because follow-up costs are higher in office-based practices,⁷ but, because a higher proportion of costs for care subsequent to the initial visit are due to referrals. However, a slightly higher proportion of walk-in-clinic patients are seen by another physician within 72 hours, and a higher proportion of walk-in-clinic costs are associated with non-referred services.

Surprisingly, the cost of referred services by emergency department physicians represents a relatively small cost of services provided to patients seen again.⁸ From Table 4 we know that most of those subsequent costs arise from services provided in hospital settings or in diagnostic clinics.

The costs of referrals by patients seen in an after-hours clinic is the lowest of all practice settings, representing only 12.6 percent of the costs of the initial visit. This finding is consistent with the previous results which indicate low subsequent costs overall, and the lowest cost per patient seen again.

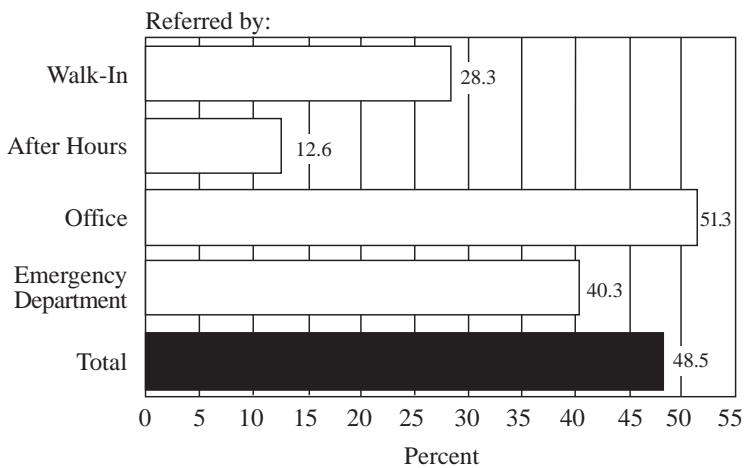
FIGURE 1
Average Cost of Initial Visits and Referrals (Dollars per Patient, by Delivery Setting)



	Walk-In	After Hours	Office	Emergency Department	Total
Initial Visit	27.61	26.53	25.42	35.69	26.42
Referrals	7.81	3.33	13.03	14.38	12.85

Source: Authors' calculations using OHIP data.

FIGURE 2
Referral Cost Shares by Delivery Setting (Referral Cost as a Percentage of Initial Visit Cost)



Source: Authors' calculations using OHIP data.

DISCUSSION

Based on our empirical analysis of Ontario data collected in 1991, we conclude that the generally negative reputation of walk-in clinics is largely undeserved. Walk-in clinics differ very little from office-based practices in terms of overall costs, the percentage of patients seen again, and follow-up costs. On that basis, many of the misconceptions about these clinics can be largely dismissed. Patients who see a physician in a walk-in clinic do not routinely see their family physician on follow-up, walk-in clinics do not skew their billings toward the more expensive assessments, and they appear to provide continuous primary care to many patients.⁹ However, it is true that walk-in clinics provide higher proportions of episodic care and that office-based practices provide a higher proportion of chronic care. Concerns about “cream-skimming” cannot be entirely eliminated and require further investigation. Furthermore, the reader should keep in mind the data limitations discussed earlier in the paper, such as potential imprecision in the OHIP diagnostic coding system which may mask some differences in case-mix across service delivery settings.

Of particular interest are the costs associated with primary care provided in emergency departments. Once a patient presents to an emergency department, the amount of diagnostic testing and subsequent care is high compared with other settings. While increased acuity can explain much of the higher costs, the prevalence of “routine” diagnoses makes it unlikely that severity of illness can account for all of the higher cost. This too warrants further investigation.

Previous research, such as that of Burnett and Grover (1996), has documented the use of the emergency room by non-urgent patients. Indeed, the hope of reducing costs for these patients has lead some commentators (e.g., Alemagno, Zyzanski and Silko 1986) to recommend interventions such as telephone triage to direct non-urgent patients to other sources of primary care. However, Williams (1996) indicates

that the marginal cost of treating non-urgent patients in the emergency department is relatively low. Therefore, interventions to direct these patients away from the emergency department to other care settings might not lower costs for their care as much as many analysts had hoped. Based on our results from Ontario, we think that this question needs further study. As we noted previously, average treatment costs were 30 to 35 percent higher in the emergency department than in other primary care settings. Furthermore, our study focuses on physicians' costs; if one takes into account hospital services costs as well, the cost differential is even larger (Williams 1996).¹⁰ While this difference is likely to be substantially explained by the presence of some very seriously ill patients treated in the emergency department, some of the difference is likely the result of more aggressive treatment on non-urgent patients in the emergency department than elsewhere. To the extent that this can be shown to be true, the cost of treatment of non-urgent patients would be reduced by redirecting these patients to other care settings, resulting in system-wide cost savings.¹¹

NOTES

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¹This result assumes that there are fixed budgets for physician services (“hard caps”) as is the case in many Canadian jurisdictions.

²Pediatricians were included because of the large proportion of primary care they provide to children. To minimize the effect of including consulting pediatric practices, encounters in which a consultation or repeat consultation was provided were excluded.

³This information was provided in personal communication with Information Analysis Branch of the Ontario Ministry of Health.

⁴In the case of office-based practices and emergency departments we observe that using the 1 percent cut-off captures roughly 70 percent of encounters. In the case of walk-in and after-hours clinics, just over 80 percent of encounters are captured.

⁵We are grateful to an anonymous referee for suggesting this methodology.

⁶Some portion of the cost difference may also be indicative of the fee structure which provides premiums for some services provided in emergency departments.

⁷We have seen from Tables 4 and 5 that subsequent costs in walk-in clinics and office-based practices are very nearly the same.

⁸Just over \$10 million in costs were generated by emergency department physicians in referred activity, compared to \$45 million of services provided to patients by another physician within 72 hours of being in the emergency department.

⁹As pointed out by an anonymous referee, a ten-day interval may be considered by some to be too short to demonstrate many of the components that together comprise the concept of continuity of care. Nevertheless, our data is limited to the ten-day interval.

¹⁰Williams presents US data on emergency department visits indicating that the cost of hospital services is 2.27 times as large as the cost of physicians' services (i.e., \$145.50 compared to \$63.92).

¹¹As pointed out by an anonymous referee, one may be able to make a case for the potential use, in settings such as rural under-serviced areas where no walk-in or after-hours clinics exist, of low volume emergency de-

partments as extensions of physicians' offices for evening and after-hours care.

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