PAYING DOCTORS: IMPACT OF A CHANGE IN REMUNERATION METHOD AT A CANADIAN ACADEMIC HEALTH CENTRE

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Abstract: Almost a century ago, North American medical reformers argued that clinician scholars could be relied on to do their best academic work only if they were freed from reliance on entrepreneurial activity. Since that time, Canadian medical schools have become increasingly reliant on medical fees to subsidize their academic mission. At present, clinical earnings no longer appear able to support medical education. This article describes the early results from an innovation in physician payment at an Ontario academic health centre. Under the new system all faculty abandoned fee-for-service billing and were funded from a global budget. This remuneration change had little impact on clinical service, education, or research. However, the system has introduced unprecedented stability and accountability to the funding of medical education.

Résumé: Il y a un siècle, en Amérique du Nord, les réformateurs du domaine de la santé affirmaient que les cliniciens/professeurs de médecine libérés de leur dépendance sur des activités entrepreneuriales produiraient un meilleur travail académique. Depuis cette époque, les facultés de médecine au Canada sont devenues de plus en plus dépendantes des frais médicaux pour financer leur mission d’enseignement. Présentement, les gains de la pratique clinique ne semblent plus capable de soutenir les coûts de l’éducation médicale. Cet article décrit les résultats préliminaires de l’application d’une rémunération novatrice des médecins d’un centre universitaire de santé de l’Ontario. Sous le nouveau régime, les professeurs de médecine sont rémunérés à partir d’un budget global plutôt qu’à l’acte. Ce changement de rémunération a eu peu d’impact sur le service à la clientèle, l’éducation et la recherche. Ce nouveau système a introduit une stabilité et une responsabilité financière face à l’éducation médicale qui demeurent sans précédent.
A recurrent theme in the health system restructuring that has characterized Canada in the past decade is the need to control costs by finding alternatives to the fee-for-service (FFS) method of paying physicians. Physician remuneration generally accounts for up to a quarter of provincial health care expenditures. In primary care, capitation payment for rostered patients is a popular model. Devising similar innovations for paying specialists has received far less attention. However, the Ontario government is currently committed to creating alternative payment plans for specialists at each of the province’s five academic health centres (AHCs). The studies described in this article explore the characteristics and initial consequences of the first of these plans, implemented in Kingston in 1994.

PROGRAM CONTEXT: PAYING ACADEMIC PHYSICIANS

Early in the 20th century, medical reformers began to argue that clinician scholars could be relied on to do their best academic work only if they were freed from reliance on entrepreneurial activity (Ludmerer, 1985; Rothstein, 1987). Despite a flurry of enthusiasm for salaried payment, however, North American medical schools became increasingly dependent on faculty earnings. By 1991 faculty-generated clinical earnings accounted for 45% of American medical school budgets (Jolin, Jolly, Krakower, & Beran, 1992), and the Association of American Medical Colleges estimated that by 1993, 28 cents of every dollar of clinical faculty income was used to subsidize academic activities (Jones & Sanderson, 1996). Canadian schools, where clinicians are required to return to their faculties billings in excess of an individually negotiated ceiling, are similarly reliant on faculty earnings (Thorne, 1997).

Throughout North America this system of financing medical education is threatened. In the United States, the Balanced Budget Act of 1997 will significantly reduce Medicare subsidies to medical education by 2002 (Iglehard, 1999). At the same time, confronted with the competitive managed-care market, teaching hospitals are no longer able to bill at rates that reflect the extra costs associated with their academic role, traditionally a premium of 30% (Fishman & Bentley, 1997; Kuttner, 1999). In Canada, a constricted hospital sector during the 1990s has lead to fewer teaching beds and a reduction in practice volume for hospital-based clinical faculty (Government of Ontario, 1997, 1998). As well, provinces imposed both individual and aggregate caps on physician billings (Dowdall & Ramchandar,
1999). As most academic departments share in clinician earnings above individually negotiated ceilings, capped billing had its greatest impact on that portion of an academic clinician’s earnings which would have gone to the medical school.

Program Objectives

It was in this context of diminished fiscal stability for medical education that the academic health centre in Kingston, Ontario, negotiated with the province an Alternative Funding Plan (AFP) in 1994 and put in place a new governance structure, known as the Southeastern Ontario Academic Medical Organization (SEAMO), by which to administer it. The AFP replaced FFS with annual envelope funding initially based on previous aggregate clinical billings, but including several other sources of public funds as well. The government’s objective was to achieve budgetary predictability for the provision of clinical care at the centre. The academic centre also sought budgetary stability, but additionally believed the removal of volume-based financial incentives would result in changed patterns of physician behaviour. Marginally necessary care would be reduced, resulting in both enhanced quality of care and increased time for research and teaching (Queen’s Health Policy Research Unit, 1996).

Physician Payment in the Literature

It is difficult to find compelling support in the existing literature for all the founders’ assumptions as to the likely effect of the AFP. For example, no literature explicitly links the payment method of faculty members to educational processes or outcomes. The same may be said for remuneration and research activity. The documented predictors of research productivity for individuals include age (Krumland, Will, & Gorry, 1979; Pearse, Peeples, Flora, & Freeman, 1976), research training (Beaty, Babbott, Higgins, Joly, & Levey, 1986; Levey et al., 1988; Pincus, Haviland, Dial, & Hendryx, 1995), and gender (Barnett et al., 1998; Carr, Friedman, Moskowitz, Kazis, & Weed, 1992), while for organizations the key factors recognized in the literature are the presence of a well-established research culture (Allison & Stewart, 1974; Bland & Schmitz, 1986; Crane, 1965; Long, 1978; Long & McGinnis, 1981; Manu, Landaw, Schwartz, & Williams, 1985), mentoring of junior researchers by senior colleagues (Cameron & Blackburn, 1981; el-Guebaly & Atkinson, 1996; Mills, Zyzanski, & Flocke, 1995), and assurance of sufficient protected re-
search time for faculty members (Harrington & Levine, 1986; Vardan, Smulyan, Mookherjee, & Mehrotra, 1990). However, a specific relationship between payment method and research has not been described.

In contrast to the situation for research and education, important aspects of the relationship between remuneration method and the provision of clinical service have been studied, though predominately in American settings. There is ample evidence that FFS payment encourages an increase in the volume of medical services compared to other payment formats (Hemenway, Killen, Cashman, Parks, & Bicknell, 1990; Hickson, Altemeier, & Perrin, 1987; Hohlen et al., 1990; Nguyen & Derrick, 1997; Yip, 1998). Financial incentives have also been shown to alter the content of practice. Surgeons paid by FFS, in comparison to salaried practitioners (Wilson & Longmike, 1978) or participants in prepaid plans (Luke & Thomson, 1980), have been found to have different approaches to resource use and timing in the management of common surgical conditions. For example, the Caesarean rate under Medicare reimbursement is lower than under more lucrative reimbursement from private insurance in the United States (Gruber, Kim, & Mayzlin, 1999; Keeler & Brodie, 1993). Similarly, a Medicare demonstration project revealed that bundling all components of payment for bypass surgery into a negotiated global sum resulted in significant cost savings due to changed surgeon practice with respect to the use of nursing staff, laboratory tests, and intensive care beds (Cromwell, Dayhoff, & Thoumaian, 1997).

Some of the variations in patterns of care provision under different remuneration systems may represent the elimination of least-necessary care. When physicians under prepaid plans were compared to FFS surgeons, the prepaid groups performed fewer procedures for which there is generally a large discretionary component, such as hysterectomies, tonsillectomies-adenoidectomies (LoGerfo, Efird, Diehr, & Richardson, 1979), or Caesarean sections (Price & Broomberg, 1990). A study of gynecologists who switched from FFS to a capitated contract found service volume decreased largely due to a reduction in purely elective procedures (Ransom, Mcneeley, Kruger, Doot, & Cotton, 1996). Similarly, when physicians paid by capitation, who had an equity interest in utilization incentives paid to their group, were compared to those paid by traditional indemnity insurance, it was found that capitated patients in the 25-to-44 age group were admitted to hospital at a significantly lower rate for low-acuity medical conditions (Josephson & Karcz, 1997).
In summary, there appears to be a consensus in the literature that FFS practice, compared to salary or capitation methods of payment, encourages higher service volumes. Shifting an AHC to block funding, therefore, might reasonably be expected to result in lower volumes of service provision. However, the literature is inconclusive as to whether the change in volume would represent the elimination of excess servicing or of essential medical care. Finally, existing studies do not consider how a shift in clinical volumes would influence research and educational activities.

EVALUATING THE AFP

Constraints

To what extent did the AFP realize its goals of enhanced care and increased faculty time for educational and research activities? Determining an answer to this complex question was hampered by a number of significant constraints:

- **Data**: For many research questions either no pre-AFP data were available, a problem that often persisted into the post-AFP period, or its retrieval was prohibitively costly and time consuming. This deficit is shared by most AHCs in Canada and reflects an era in which management had relatively little external accountability for outcomes.
- **Comparison site**: No single AHC in Ontario or beyond had the characteristics to serve as an ideal comparison site. Differences in record coding, the presence of large non-AHC consultant populations, and multiple hospital communities all created obstacles in selecting comparison sites.
- **Provincial data**: For some research findings, no provincial data were readily available from which to create a context. For example, in Ontario there are no surgical waiting time data against which changes documented at SEAMO could be compared.
- **Confounders**: The health care system has been in a state of flux over the lifetime of the AFP. Policies such as the capping of physician billing or hospital restructuring significantly intruded on attempts to isolate a pure AFP effect.
- **Time frame**: Many significant effects of the AFP, particularly those focused on research and educational outcomes, were unlikely to become apparent during the lifespan of the AFP evaluation project.
Organizational Issues

The agreement with the Ministry of Health and Long-term Care (MOH) required, without stipulating further details, an evaluation of the AFP. Responsibility for the cost was debated during the first two years of the program, a controversy that inhibited the organization of a coordinated evaluation effort. Initially it was deemed essential to involve participants in the evaluation process. A steering committee was created, composed of interested faculty and members of the Faculty of Health Sciences administration. It created four working groups to focus on the clinical, research, educational, and organizational impacts of the AFP. Each group was composed of clinicians and a research associate seconded from the Queen's Health Policy Research Unit (QHP). An external scientific advisory committee was recruited to review findings.

Busy clinicians evinced limited time and capacity for launching evaluation studies, and anticipated external funding for the evaluation did not materialize. After two and one half years, only five studies had been initiated by the working groups to supplement several preliminary studies commissioned from QHP. In 1997 the working groups were collapsed into a faculty advisory group, and responsibility for completing the evaluation was given to QHP. Priority was placed on completing studies in progress, undertaking surveys to follow up those previously done, and documenting key aspects of the clinical impact of the AFP not yet studied. By early 1999, within the constraints imposed by the practical and organizational issues, a broadly focused evaluation had been carried out. The following sections of this article describe the way in which, deploying available data and diverse techniques, researchers documented the impact of the AFP on the main components of the AHC’s tripartite mission — clinical care, education, and research — and on the organization of the centre.

PROVISION OF CLINICAL SERVICE

Fee-for-service practice is generally acknowledged to encourage both a higher volume of practice and shorter waits than fixed remuneration schemes. Conversely, it is often argued that exemption from volume-based practice promotes a different mix and better quality of clinical service. To determine whether the AFP altered clinical service provision within SEAMO, studies were done on the five broad areas discussed below.
Service Volume

Hospital discharges from SEAMO decreased 6.4% from 1992 to 1996. Of that percentage, 2.5% occurred following the implementation of the AFP and almost 4% occurred prior to the AFP. Comparison with provincial data establishes that changes within SEAMO were comparable to changes elsewhere; however, the morbidity of hospitalized patients, based on resource intensity weights as a very weak proxy for severity of illness, climbed steadily in SEAMO after 1994, in contrast to a more leisurely increase at other academic health centres in the province. This suggests AFP clinicians may have adopted a higher acuity-of-illness threshold for admitting patients to hospital (Parent, 1999a). In light of the substantial evidence of the high incidence of unnecessary hospitalizations in Canada (Working Group on Health Services Utilization, 1994), this may represent an improvement in appropriateness of care.

SEAMO clinicians provide the vast majority of specialist outpatient appointments to catchment area patients. Following a large drop in the second quarter of 1992, a year after Ontario initiated caps on physician billing, a relatively steady annual decline of –8.2% was observed in the total number of outpatients through 1996. The rates of change in new appointments were neither uniform nor consistent across the specialties and subspecialties within the hospitals. Without comparable provincial data it is difficult to assess the degree to which the AFP contributed to this decline, but it is clear that the trend antedated the introduction of the new funding mechanism (Shaw, Jackson, & Farquhar, 1997).

Waiting for Service

Data on the amount of time patients spent waiting for their first elective outpatient appointment with SEAMO specialists were gathered from extant referring physician records for two years before and after the implementation of the AFP. Although mean waiting times increased by a statistically significant average of 4.2 days for participating clinicians, the changes varied widely across departments and divisions. This suggested changes were most likely a reflection of local divisional or department circumstances, such as loss of physician staff, rather than an effect of the AFP. Moreover, the clinical impact of these relatively small changes for elective outpatients, that is, patients who are deemed by referring physicians to be non-urgent, is likely insignificant (Shaw, Jackson, & Farquhar, 1999).
Studies were also done of surgical waiting times at the two acute care hospitals in SEAMO. Between 1994 and 1996 operating room time, surgical beds, and number of surgeons remained largely stable. There was no effective change in mean waiting times in 3 specialties, a statistically significant increase in 14 specialties, and in one instance a decrease. In aggregate these findings establish that by 1996 patients waited an additional average 9.1 days for elective surgery at one hospital and an additional 6.5 days at the other. It is difficult to determine whether the AFP contributed significantly to the observed changes or whether the increased waits owed more to restructuring in the hospital sector, as no provincial waiting time data exist. None the less, it is evident that between 1992 and 1996 there was an overall average 26% increase in the amount of time spent awaiting elective surgery (Shaw & Hall, 1998; Shaw & Shortt, 1999).

Pattern of Clinical Care

Alterations in waiting times and patient volumes suggest that there may have been change in the patterns of clinical care. To examine the impact of the AFP on practice patterns, diagnostic gastrointestinal (GI) endoscopy was chosen as the focus for a pilot study. There was a decrease in the volume of upper GI endoscopies (−34%, \( p \leq 0.01 \)), which was similar to provincial trends, but the decline in colonoscopies (−13%) was markedly less than the provincial decrease. Analysis of the changes findings suggested SEAMO endoscopists may have reduced volume by selectively eliminating procedures likely to provide diagnoses of debatable importance to the patient’s management (Stanton & Parent, 1999).

To further explore the possibility that the AFP induced a change in practice patterns and volumes, four sentinel surgical procedures, known to have a large discretionary component, were chosen for study in SEAMO and at the four other academic health centres in Ontario that retained fee-for-service remuneration. Five years of administrative data, capturing all inpatient and outpatient records from 1992 through 1996 at the five academic medical centres, were analyzed in this quasi-experimental, retrospective study using a longitudinal, pre-post approach. Changes found at SEAMO after the implementation of the AFP were similar to those found in the other four academic medical centres. No evidence was found that changing the physician payment mechanism influenced the practice patterns of surgeons at SEAMO (Stanton & Shortt, 2000).
conjunction with the endoscopy study, these results suggest changes in practice patterns may be specific to individual specialties.

Population Health

Although there is significant debate as to the extent that the health care system has an impact on population health status, some might argue that changes identified in service provision, patterns of clinical practice, and waiting times would be reflected in alterations to the health of the catchment area population. Though deterioration in health status would be difficult to ascribe simply to the initiation of the new funding formula, stable or improved health status would suggest that service provision under the AFP had no detrimental impact. Population health status was measured by standardized mortality ratios (SMRs), a measure sensitive to short-term influences, for the whole population and for the populations under both 65 and 75 years of age. A socio-economic risk index was developed to control for the confounding regional differences in socio-economic status. During the study period the health status of SEAMO’s population under 65 improved markedly, and a similar but non-significant improvement in health status was found when the SMRs were calculated for those under 75 years (Stanton, 1999). Although the relationship between physician funding changes and population health status is doubtless very indirect, these results document that there was no deterioration in the health of the catchment area population following implementation of the AFP.

Quality of Care

Although patterns of care may have shown little change, the impact of the AFP on quality of care was unknown. A before-and-after study used the College of Family Physicians of Canada Practice Assessment Program (PASS), a consensus-derived tool for measuring process indicators, to assess the quality of care provided by family physicians in the office setting. The subjects were patients of nine participating physicians and three non-participant controls, who were seen for an indicator condition both before and after the funding change. Eleven dimensions of care were assessed for eight indicator conditions. There was no significant change in the quality-of-care scores of the participating physicians when the before period was compared to the after, but non-participating physicians improved on one dimension of care and on all dimensions taken together (Godwin & Shortt, 2000).
Views of Referring Physicians and Consultants

In the provision of health services, perceptions of change may be as important as more objective measures. To explore this area, all regional referring family physicians \((n = 323)\) and the 208 academic consultants at SEAMO were surveyed two and one-half years after initiation of the AFP. Four of ten referring physicians indicated their referrals to AFP consultants had decreased, and over a quarter said their referrals to local non-AFP consultants or other secondary care centres had increased. Almost one-quarter of regional doctors felt the volume of work in their own practices had increased, and three-quarters stated they provided more care of complex patients and coordinated more community care. Eighty-six per cent of referring physicians and 58% of consultants felt outpatient waiting times had increased. Though 39% of consultants stated their time spent on patient care had increased, there was substantial agreement among referring physicians that consultants discharged patients from follow-up earlier and admitted patients to hospital less often. The majority of referring physicians felt the funding change had a negative effect on local health care, and 40% of consultants agreed. However, the majority of physicians in both groups ranked the AFP last in importance out of five trends in the health care system, including bed closures and funding cuts (Godwin, Shortt, McIntosh, & Bolton, 1999).

Based on the above findings, it is clear that although participant perceptions can serve as a useful guide to program areas requiring further research, they may not accurately reflect reality. For example, other studies previously referred to failed to document significantly increased outpatient waiting time and found preliminary evidence of an improvement, rather than a decrease, in the quality of care. In general, the directly attributable impact of the AFP on clinical activity was surprisingly scant.

PROVISION OF MEDICAL EDUCATION

Education is a second element in the academic medical centre’s mission that, according to the advocates of the AFP, would be influenced by a change in the way in which clinical faculty are funded. A study comparing perceptions of the respective learning environment by undergraduate medical students in Kingston and in Ottawa, where the FFS system continued, failed to detect significant differences (Cosby, O’Connor, & Myers, 1998). Surveys of graduating stu-
dents in Kingston did, however, reveal increasingly positive views of the learning experience from 1994 to 1997.

Results on Part 1 of the Medical Council of Canada (MCC) qualifying exam, written upon completion of undergraduate training, deteriorated in the three-year period from 1995 to 1997. However, it is likely that these changes primarily reflect alterations to admissions criteria, which placed less emphasis on past academic achievement, and to adjustment to a new curriculum, which is known to cause a period of performance impairment while students adjust. Results from Part 2 of the MCC exam, written a year after graduation, as well as from the certification examination of the College of Family Physicians of Canada and from the specialty examinations of the Royal College of Physicians and Surgeons of Canada, failed to show any significant change following the introduction of the AFP.

The health science centre also accomplishes its educational mission by providing continuing education programs for practising physicians. Between 1993–94 and 1997–98 a steadily increasing number of programs were offered. This may reflect an enhanced willingness of faculty to participate in such voluntary educational offerings, in the absence of the previous financial disincentives to pursue such activity (Shortt, Shaw, & Keresztes, 1999).

Documenting an educational impact is confounded by a number of factors, including reductions in university funding, cutbacks in hospital teaching beds and outpatient clinics, and alterations in admissions policy and curriculum content. As well, no useful classroom level survey data are available to permit an assessment of changes in the quality of teaching. Finally, the four years under review may be too short a period to permit identifiable change to emerge. However, based on the available evidence, the introduction of the AFP appears to have had little impact on educational activities at SEAMO.

Pursuit of Research

The final component of the academic health centre’s mission is the pursuit of research. Though the AFP was introduced at a time when public funding for medical research was declining in Canada (Bergeron, 1998), it is clear that it fostered an increase in what may be considered research effort. Less compelling proof of research productivity than peer-reviewed publications or receipt of grants, ef-
forts such as non-peer-reviewed publications and presentations increased after 1993 and may represent a precursor stage to more formal research outputs. As well, episodes of collaborative research and the number of grant submissions rose very substantially after 1994. None of these changes were related to the recruitment of new researchers. Collectively, these developments suggest increased faculty research effort.

A more conventional measure of research activity is the number and dollar value of research grants actually received. Both of these measures increased after 1994 at SEAMO, though the trend, at lesser velocity, antedated the introduction of the AFP. Similarly, the number of peer-reviewed publications by clinical faculty increased two years after the AFP was initiated. This two-year lag is compatible with the amount of time required to write and publish research that was likely conducted before or immediately after AFP introduction. When overlapping five-year averages are used to report the number of published papers, the increase is seen to be part of a consistent long-term trend shared by other Ontario academic health science centres. Finally, the quality of these publications, based on the widely accepted standard of citations received, is commensurate with the performance of peer institutions in Ontario (Shortt & Parent, 1999).

From this brief overview, it is clear that research effort increased after the AFP was introduced, and that previous grant and publication trends continued. The new funding mechanism may have provided a facilitating environment for research, but for several reasons it is difficult to ascribe a more direct causal role to the AFP. First, the natural history of research is such that any effect of a new program should not be sought until a time elapse of at least two to four years. Second, the literature previously referred to identifies certain organizational characteristics as necessary for the augmentation of research activity. Without simultaneous alterations in these factors, it is unlikely that a change in funding mechanism alone could induce a change in research activity.

ORGANIZATIONAL ASPECTS OF THE HEALTH SCIENCE CENTRE

The pursuit of an academic health centre’s mission occurs within an organizational context and culture that may, in some important respects, be determined by the manner in which participating clinicians are remunerated. The FFS format enjoys the power of tradition
and is viewed by physicians as conferring a high degree of clinical autonomy. To succeed, an alternative funding approach must be perceived as providing at least offsetting advantages. Such perceptions will derive not only from the new plan’s intrinsic merits, but also the manner in which it is implemented and managed.

To gain an appreciation of this aspect of the AFP, in 1996 and 1998 clinical department heads were interviewed and revealed a surprising consensus towards the new funding plan (Anderson & Cosby, 1997; Parent, 1999b). The critical issue identified by these clinicians was how to meet ongoing clinical demand while at the same time allowing enhanced time for research and educational activities. They did not believe that marginally necessary care, the component of FFS practice that the new funding format sought to eliminate, comprised a significant portion of faculty activity. Indeed, some clinical department heads believed that the emphasis on research placed clinical activities and quality of care in jeopardy. It was said that clinical workloads were not necessarily reflected in the manner in which funding was allocated to departments or to individual clinicians, and a fixed annual budget inhibited flexibility in matters such as recruitment. Although they conceded the important advantages of funding stability, equity and flexibility were seen as diminished in comparison to traditional FFS funding.

In order to determine whether the views of department heads were shared by their department members, clinical faculty were surveyed at two- and four-year intervals following implementation of the AFP (Cosby & Middleton, 1999; Keresztes, 1999). Clinical faculty indicated that they wanted to spend more time on research in 1996, but less time on it in 1998; conversely, they wanted to spend less time on clinical practice in 1996, but wanted to spend more in 1998. Although faculty perceived a lack of incentives to respond to increased demand for clinical service, they also sensed disapproval by their departments of any attempt to replace clinical work with academic activity. These mixed messages may have created a degree of role inertia, as there were no significant differences between periods in the proportion of professional time that respondents reported spending on research, education, clinical practice, and administrative duties. Yet in both the 1996 and 1998 surveys, more than one third of the respondents reported that the AFP had changed their research and education activities, suggesting less a quantitative than an as-yet-undefined qualitative impact.
The views derived from these interviews and surveys may help to explain why the new incentives associated with the AFP, such as research kudos or recognition for teaching excellence, have failed to displace traditional concerns with service demands and financial rewards for both medical administrators and faculty members. This is an issue of managing organizational change, a crucial task in the introduction of any new program, and a subject for ongoing research.

REMAINING QUESTIONS AND ISSUES

Studies to date have necessarily left unexplored relevant questions and have identified a number of important evaluation issues. The following section suggests areas that should be addressed during the second iteration of the AFP, which commenced in early 2001:

- As Canadian medicare enters the era of accountability, it will be increasingly necessary to collect relevant local and system-wide data. It is difficult to understand the significance of, or interpret, certain clinical service trends within SEAMO without access to comparable provincial data. Often, requests for such data cannot be gratified in a timely manner or the data, as in the case of waiting times, simply do not exist. Equally important, local data should be collected not just on clinical matters but also education and research activities, and should be made readily accessible to evaluators.

- This article has only superficially addressed the critical question of whether the AFP induced quality-enhancing changes in practice patterns. It is essential to recognize both the importance of and the significant obstacles to doing this type of research. If the AFP cannot be shown to enhance the provision of care, one of its key goals is called into question. Yet clinicians are very sensitive to and often resistant to any external attempt to assess the quality of their care. A resolution to this potential conflict will demand an organization-wide commitment from SEAMO.

- Another critical question related to clinical care is the nature of the relationship between service provision and population health status. There is a large and often contentious literature that examines this complex connection, usually at a national or provincial level. The challenge for future evaluations will be to design and validate indicators capable not only of accurately detecting small changes in regional
health status, but also of linking such outcomes to the provision of specific services.

- To fully appreciate the impact of alternative payment on scholarly activities will demand the use of individual-level data. In the case of educational activities, the impact is best followed longitudinally at the level of the individual instructor through well-designed course evaluations. At present, such data are only sporadically available for some faculty, and do not necessarily address the relevant pedagogical questions. Similarly, for research activities, current databases do not capture subtle yet critical processes such as mentoring of new faculty by senior researchers, enhanced interdepartmental collaborations, or the production of non-peer-reviewed research efforts. Only by collecting the fine details of individual faculty member’s academic activity over time will the long-term effects of the AFP on scholarship become apparent.

- Any large-scale program will demand complex organizational change in order to succeed. How alternative payment alters the profession incentives of physicians, how it may influence recruitment patterns, and in what manner new forms of accountability are balanced with traditional notions of professional autonomy are examples of the types of questions that must be asked about the SEAMO experience. Answers to these important questions are unlikely to be supplied by quantitative methodology, an approach familiar to and trusted by physicians. Instead, the questions can only be answered by relying on the sophisticated qualitative methods developed in the social sciences.

The five points discussed above are by no means the only areas requiring future attention. Rather, they are cited here as examples of themes the present evaluation has identified as demanding further elucidation if the impact of alternative funding on the activities of the academic health science centre is to be fully understood.

CONCLUSION

The AFP is a form of fixed-payment practice that is intended to enhance the quality and productivity of a career in academic medicine by liberating it from the necessity of fee generation. Surprisingly, it has had relatively little impact on the Ontario academic health centre at which it was introduced. Surgical waiting times increased and
patient volumes decreased, though in neither case is it possible to establish the degree to which the new plan was responsible. There is some evidence that marginally necessary care was reduced and quality of care remained stable, and reasonable evidence that the plan exerted no detrimental effect on the health of the regional population. It had, beyond increased continuing education programs, no impact on undergraduate or postgraduate education at the centre, and a slight positive effect on research activities. Despite the plan’s largely innocuous results, regional physicians had a negative view of its effects, and participating faculty and administrators were frustrated by issues of financial equity and clinical workload.

It is possible that the AFP’s relative lack of impact, particularly in the case of education or research, is a function of insufficient time elapse since its initiation. As well, the lack of discernable impact may reflect the constraints imposed on evaluation by a lack of appropriate data by which to detect subtle changes in the AFP environment. In this respect, however, the evaluation was not dissimilar to much health services research. This multidisciplinary field of scholarly investigation copes by using a variety of available data sets, each often imperfect, and various methodologies to analyze the data. Trends consistently found using multiple sources and methods acquire a validity that transcends the limitations otherwise associated with inadequate data. In the case of the AFP, no information source revealed an exception to the general trend of limited impact.

It might be argued that the new funding method was not significantly different from the preceding ceiling system to result in marked changes. Under that system, individual clinicians annually returned to their departments fees in excess of a negotiated amount. This, it has been argued, provided a disincentive to maximize FFS billing in a manner similar to the AFP. However, there are important differences between the ceiling system and the fixed remuneration of the AFP. First, under the ceiling system maximizing billing in order to contribute large amounts to one’s department was seen as a way of gaining influence within the department. Second, large “overages” could be used by clinicians to argue that their individual ceilings had been set at an inappropriately low level. Finally, there was no limit to the amount of billing revenue in excess of the ceiling limit that could be retained by clinicians if spent on expenses of practice as accepted by tax authorities. All of these factors, despite the ceiling arrangement, provided incentives to generate high FFS billings; none of them were present after the introduction of the AFP.
In a broader sense, however, the inability of a series of evaluation studies to document definitive impact does not suggest the AFP has been without very significant effect. On the contrary, in two important ways it has been a marked success as an alternative to FFS payment of academic clinicians. First, it has introduced predictability, a characteristic of immense importance to government in a publicly funded health care system, into the increasingly volatile world of AHC financing. Government is aware in advance of the funds required to pay clinicians at the centre for a five-year period, knowledge it could not have had under the previous FFS system. At the same time, the academic health centre no longer relies on variable clinical earnings to subsidize a portion of academic activities, but rather receives annual block funding. Second, in marked contrast to the FFS sector, the AFP assumes an accountability on the part of the AHC to the provincial funder. Previously, the medical faculty was a loose affiliation of individual entrepreneurs, each of whom submitted billings to the provincial medical insurance plan, but who could not be held to fiscal account as a collectivity for service provision. In the final analysis, the AFP is a still-evolving but very significant innovation in academic health centre funding, and a harbinger of further change to come in the fiscal environment of Canadian academic medicine (Haslam & Walker, 1993; Hollenberg, 1996; Stoddard & Barer, 1992). The initiation of predictability and accountability in the funding of medical education must be regarded as its major achievement to date.

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REFERENCES

A complete listing of all evaluation studies is available at <http://chspr.queensu.ca>. Any of the unpublished studies referred to, excluding those currently under publication review, may be obtained from the Centre for Health Services and Policy Research (formerly Queens Health Policy) at Queen’s University by contacting <kv3@post.queensu.ca>.


