Integrated delivery systems: Has their time come in Canada?

Peggy Leatt, PhD; George H. Pink, PhD; C. David Naylor, MD, DPhil

Abstract • Résumé

In the 1990s every Canadian province is struggling to reduce health care expenditures without jeopardizing access to health care or quality of care. The authors propose a new model for health care delivery: the Canadian Integrated Delivery System (CIDS). A CIDS is a network of health care organizations; it would provide, or arrange to provide, a coordinated continuum of services to a defined population and would be held clinically and fiscally accountable for the outcomes in and health status of that population. A CIDS would serve 100 000 to 2 million people; the care it would provide would be funded on a capitation basis. For providers, there would be explicit financial incentives to minimize costs. At the same time, service quality and consumer choice of primary care practitioner would be maintained. Primary care physicians and specialists would work with other health care service providers to offer a full spectrum of care. CIDS providers would form strategic alliances with community agencies, hospitals, the private sector and other health care services not managed by the CIDS, as needed. For physicians, affiliation with a CIDS that provided strong clinical leadership could be beneficial to their income stability and autonomy. Pilot projects of this model in several communities would determine whether this concept is feasible in the Canadian health care context.

Dans les années 90, toutes les provinces du Canada cherchent à réduire les dépenses consacrées à la santé sans mettre en danger l'accès aux soins de santé, ni la qualité des soins. Les auteurs proposent un nouveau modèle : le Système de prestation intégrée du Canada (SPIC), un réseau d'organisations de soins de santé qui fournirait des services continus et coordonnés à une population définie, ou qui prendrait des mesures pour le faire et qui devrait rendre compte sur les plans clinique et budgétaire des résultats sur l'état de santé de la population. Un SPIC servirait de 100 000 à 2 millions de personnes et les soins qu'il fournirait seraient financés par capitation. Les fournisseurs auraient des incitations financières claires à réduire les coûts au minimum. Par ailleurs, la qualité du service serait maintenue et le consommateur pourrait continuer de choisir son praticien de premier recours. Ces derniers et les spécialistes collaboreraient avec d'autres fournisseurs de services de santé pour offrir l'éventail complet des soins. Les fournisseurs du SPIC créeraient au besoin des alliances stratégiques avec des organismes communautaires, des hôpitaux, le secteur privé et d'autres services de soins de santé non gérés par le SPIC. L'affiliation des médecins à un SPIC qui agirait en solide chef de file clinique pourrait être avantageuse pour la stabilité de leur revenu et pour leur autonomie. Des projets pilotes de ce modèle lancés dans plusieurs communautés permettraient de déterminer si le concept est réalisable dans le contexte des soins de santé du Canada.

Every Canadian province is now struggling to reduce health care expenditures without jeopardizing access to health care and quality of care. This challenge is compounded by rapid technologic change, an aging population, demands for greater accountability and growing awareness of unexplained variations in clinical practice.[1] However, the capacity of the health care system to respond to these challenges is limited, in part because of traditional patterns of functional organization and management.

Some institutions and agencies have recognized this dilemma and have moved toward program management, which is synonymous with product-line management in the private sector. In program management, decision making is pushed "down" to managerial teams with strong clinical leaders. These managers are fully respon-

Dr. Leatt is principal investigator, Hospital Management Research Unit, and professor in and chair of the Department of Health Administration, University of Toronto, Toronto, Ont.; Dr. Pink is investigator, Hospital Management Research Unit, associate professor in the Department of Health Administration, University of Toronto, and academic associate with the Institute for Clinical Evaluative Sciences in Ontario, Toronto, Ont.; and Dr. Naylor is associate professor in the departments of Medicine, Surgery and Health Administration, University of Toronto, and chief executive officer of the Institute for Clinical Evaluative Sciences in Ontario, Toronto, Ont.

Reprint requests to: *Dr. Peggy Leatt, Hospital Management Research Unit, University of Toronto, 2nd floor, McMurrich Building, Toronto ON M5S 1A8; fax 416 978-7350; p.leatt@utoronto.ca*

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sible and accountable for their programs; furthermore, their decisions and activities are based on patients' needs.[2] Implementation of program management requires strong organizational commitment and sophisticated information systems that cover financial and clinical aspects of the organization. As a result, program management has been limited mainly to hospitals, and few attempts have been made to apply the concept across institutions or sectors.[3]

Indeed, the way the health care system is organized tends to impede links among institutions or sectors. Provincial ministries of health and regional health councils have maintained the traditional functional divisions among acute care, long-term care, mental health care, community care and public health. This inevitably leads to fragmented decision making, with its attendant inefficiencies in meeting patient needs, managing and policy making.[4]

Strategic alliances in health care may break down these functional divisions. Simple alliances include sharing of services, joint ventures and management contracts. Alliances requiring greater commitment from the participants include umbrella organizations, networks of agencies and mergers. Such voluntary alliances are now commonplace in US health care. The reputed benefits of strategic alliances include economies of scale, better cost control, better coordination of care, greater ability to acquire scarce human and fiscal resources and more opportunity to influence the politics of the system.[5] In Canada, there are implicit incentives to form alliances of health care services as a result of cost pressures. Some hospitals share administrative or support services, and rationalization of clinical care among contiguous hospitals is growing. However, with a few exceptions, these alliances are between hospitals rather than between hospitals and community agencies.

The question therefore remains: Can we develop organizational models that are fundamentally oriented to providing efficient, integrated care? Given the affordability crisis facing Canadian medicare, can we find mechanisms to balance quality, accessibility and cost control?

Organized delivery systems

Shortell and associates[6,7] have described the "organized delivery systems" that evolved in anticipation of health care reform in the United States. This system is defined as "a network of organizations that provides or arranges to provide a coordinated continuum of services to a defined population and is held clinically and fiscally accountable for the outcomes and health status of the population served." Such systems are broadly based and vertically integrated, embracing a full range of services that include ambulatory, acute and nonacute institutional and residential care. Common ownership of the institutions, agencies and practices involved in the network is not necessary. However, the providers must have clear agreements to share financial risks and benefits. Well-developed information systems are crucial to provide timely, accurate and comprehensive information about costs, quality, utilization, workload, outcomes and satisfaction. The driving force behind organized delivery systems is "managed care," which involves providing services to a defined number of enrollees at a fixed per-capita monthly rate.

Four organizational models are outlined by Shortell and associates.[6,7] In these models, health care service delivery is led by hospitals, physicians, hospitals and physicians jointly, or insurance companies. The first three models are particularly relevant to Canada.

The hospital-led model usually involves an existing hospital or health care system. It has the advantage of building on the existing strengths of the hospital but the disadvantage of being focused on the hospital. By contrast, the physician-led model is organized around physician groups, which own or lease hospital beds as needed. This model has the advantages of being focused on the patient, because physicians are very aware of patients' needs, and of providing clinically integrated care. However, problems may occur in this model if the physicians' practices are too small or have inadequate capital reserves or management expertise. The hybrid hospital–physician model combines the hospital's strengths and the physicians' patient-focused approach; however, sometimes difficulties arise in working out agreements between the hospitals and the physicians.

Although integrated delivery systems[6] are relatively new, they appear to offer great potential to control costs and to provide a continuum of care for a defined population. US hospitals that belong to integrated systems have competitive advantages over stand-alone hospitals. "Horizontally integrated" systems, in which several acute care institutions are linked, can achieve short-term economies of scale through rationalization of support functions. This is the usual type of integration seen in the Canadian hospital sector. However, "vertically integrated" systems appear to offer greater potential for success. These systems provide a broad range of services; clients can move quickly through the continuum of care. The most successful systems are those integrated in a local community to provide services for a specific population.[5]

The Canadian experience

Starting in the mid-1980s, seven provinces established commissions to review their health care systems.

Most of these commissions concluded that traditional governance structures and management models were outdated and that too many health care interventions were of unknown or unproven efficacy. They also found that some proportion of overtly wasteful or needless service provision was likely, that poor coordination of care was commonplace and that few health care services were organized according to the needs of the population.[8] Significant problems with incentives were also identified. The commissions criticized fee-for-service compensation of professionals because it primarily rewards volume and procedures, thereby perpetuating historical inequities in income among specialties. They also identified conflicting incentives for different providers, particularly the incentives contained in modes of remuneration for hospitals versus physicians.[8]

In response to these criticisms, provincial governments have created local planning and management bodies that have considerable autonomy from the higher levels of government. These include the new regional boards in Alberta, Saskatchewan and New Brunswick. To date, the main activity of these boards has been to rationalize hospital services. It is unclear whether this strategy will solve the problems caused by significant weaknesses in the systems. There is a risk that regional boards will simply duplicate and expand existing provincial bureaucracies. In some cases, the regions have arbitrary boundaries that do not reflect the referral patterns of hospitals or physicians. Some believe that the focus on hospitals within regions will perpetuate a "downsized" version of the status quo, unless efforts are made to address continuity of care, integration of health care and social services, and community needs.[9] An equally fundamental problem is that physicians are not integrated in the planning and development of these systems or in their shared incentives.

Canadian Integrated Delivery System

We believe there is an urgent need to experiment with new delivery systems that encompass elements of horizontal and vertical integration, professional involvement and enhanced accountability to the public. This system, which we call a "Canadian Integrated Delivery System" (CIDS), would comprise a family of organizations. The components of a CIDS would be the following.

Populations and payments

Defined population

Most vertically integrated health care systems in the United States have 100 000 to 2 million clients. However, in determining the size of the population to be served, the key question that a CIDS should ask is "Whom can we serve successfully?"[10] The answer requires attention to factors such as the size of the CIDS, the specialties and geographic location of existing providers, current referral patterns and populations served, and special demographic features of the community (e.g., a large proportion of elderly people or location in a "bedroom community," where access to care must be balanced between workplaces and residential areas).

Capitation payment and risk pools

A CIDS would be financed on a capitation basis, to cover all health care services for each patient (Fig. 1).[11] For each enrolled client the provincial ministry of health would provide a fixed prospective payment that would vary depending on the patient's sex, age, health status, previous utilization and other factors.[12] Special allowances would probably be necessary for northern,

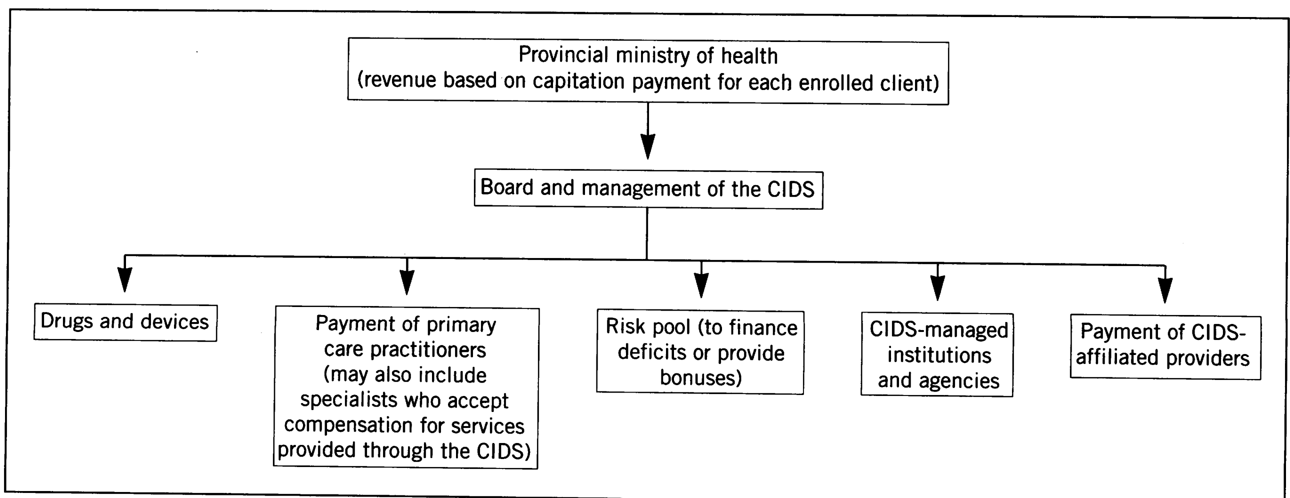

Fig. 1: Flow of funding for a proposed Canadian Integrated Delivery System (CIDS) to provide comprehensive health care services for a population in a defined area.

rural and high-risk urban populations. In any case, from the capitation payment the CIDS would pay for all of the publicly funded health care services that the client requires during the year: drugs and devices, visits to primary care practitioners, services provided by CIDS-managed institutions and agencies (hospitals and agencies providing long-term care, home care and community services), and CIDS-affiliated professionals (medical and allied health care specialists as well as quaternary services not provided by CIDS institutions).

Each CIDS would allocate a portion of its annual capitation revenue to a risk pool. This pool would be used at the end of the year to finance deficits caused by prices or volumes that exceed the budget or to provide bonuses to CIDS-managed providers. Such bonuses should be awarded only on the basis of rules agreed to in advance. To avoid windfall profits or catastrophic losses, an independent adjudication board would review performance statistics from all CIDSs and make adjustments for unforeseeable deviations in service provision.

Financial incentives for cost minimization and service quality

Bonuses to providers would give incentives to minimize the volume of services needed to achieve good health outcomes and to satisfy patients, to keep clients out of the institutional sector by providing home-based services, to make use of preventive services that have a reasonable yield, and to minimize the overall costs of the system. Capitation funding has been criticized on the grounds that it provides an incentive for underprovision of services. We believe that powerful safeguards would counteract this possibility. First, the CIDS would have to satisfy its patients or lose funding. Cost savings obtained at the expense of outcomes, quality or client satisfaction would result in clients withdrawing from the CIDS and enrolling in another, thereby threatening the revenue base of the CIDS. Second, the performance of the CIDS would be monitored through continuing peer review, publication of its rates of service provision and comparison of health indices for the population it serves with those of populations in other regions. Third, participation of patients and physicians in decision making would be assured through strong consumer representation and physician involvement in management boards. Fourth, the CIDS would compete with the traditional fee-for-service sector, which would continue to operate, although on a reduced scale. Fifth, the CIDS would face the same threat of litigation as current providers. Sixth, the professionalism and high ethical standards of Canadian providers would continue to guide patient care decisions.

Consumer choice

An important feature of Canadian health care is the freedom of patients to choose a primary care practitioner. In the CIDS model, patients would retain this freedom. Capitation-based revenue would follow the patient; hence, the physician's accountability to the patient would be enhanced. If clients were dissatisfied with the services of any CIDS-managed or CIDS-affiliated physician or other health care provider, they could change physicians within the CIDS or take their business (and their capitation revenue) to another CIDS or to the fee-for-service sector.

Physician role and service spectrum

Practitioners as gatekeepers and managers

Primary care practitioners and all physician affiliates of a CIDS would have a more explicit gatekeeping role than they do in the current fee-for-service system. A CIDS would, accordingly, develop a close business relationship with a large base of physicians and other practitioners. Physicians would have to feel comfortable with the management practices and priorities of the CIDS; otherwise, they would join another CIDS or return to the fee-for-service sector. Moreover, many CIDS managers would come from clinical backgrounds because of the organizational emphasis on client needs.

A full spectrum of care

Ideally, a CIDS would provide a full spectrum of care, including acute and chronic institutional and ambulatory care, rehabilitation and home care services. A major challenge would be the development of capitation payments that reflect fairly differences in patient subpopulations and the spectrum of services to be provided. To receive a full spectrum of care, clients would be able to use services offered by providers not affiliated with the CIDS. These costs would then be charged back to the CIDS. This type of arrangement would obviously be required for some quaternary services, such as transplantation or open-heart surgery. However, costs could also be incurred for various elective services not provided routinely by a CIDS.

Governance and management

Performance-oriented governance

The CIDS governing body would be accountable for financial and clinical performance from the perspective of the overall CIDS. Primary care practitioners and all CIDS

providers would be accountable to patients, peers and the CIDS board (Fig. 2). The board would be relatively small, with members selected to represent the major stakeholders in the system, including enrollees, the community and special interest groups. The board would have mechanisms to measure its own performance and to demonstrate its accountability to the population it serves.[13]

Strategic alliances

A CIDS would provide services directly, through CIDS-managed providers, and indirectly, through CIDS-affiliated providers. Thus, the governance structure would have to foster and respect strategic alliances, including community health-planning alliances, joint-services corporations, joint-contracting alliances, holding companies, virtual mergers, asset mergers and full network ownership.

Needs-based planning and information-based management

A CIDS would have to undertake rigorous and continual assessment of the needs and demands of the population it serves. The veneration of the community and the historical reputation of the institutions involved would not suffice as surrogates for quality. Although existing administrative or secondary data could provide many insights into whether a CIDS was achieving its goals for quality, a CIDS would have to collect primary data to understand fully processes and outcomes of care for its varied providers and populations. Data for evaluation and management would have to be integrated with online clinical information systems. Information systems would also be required to support clinical profiles and protocols, which would be integral to effective and efficient decision making.[14] Strong information systems would also be crucial for effective program management of special services.

OTHER ISSUES

Academic elements

A CIDS would provide opportunities to educate health care providers within the context of a continuum of care. It would be particularly suited to education in

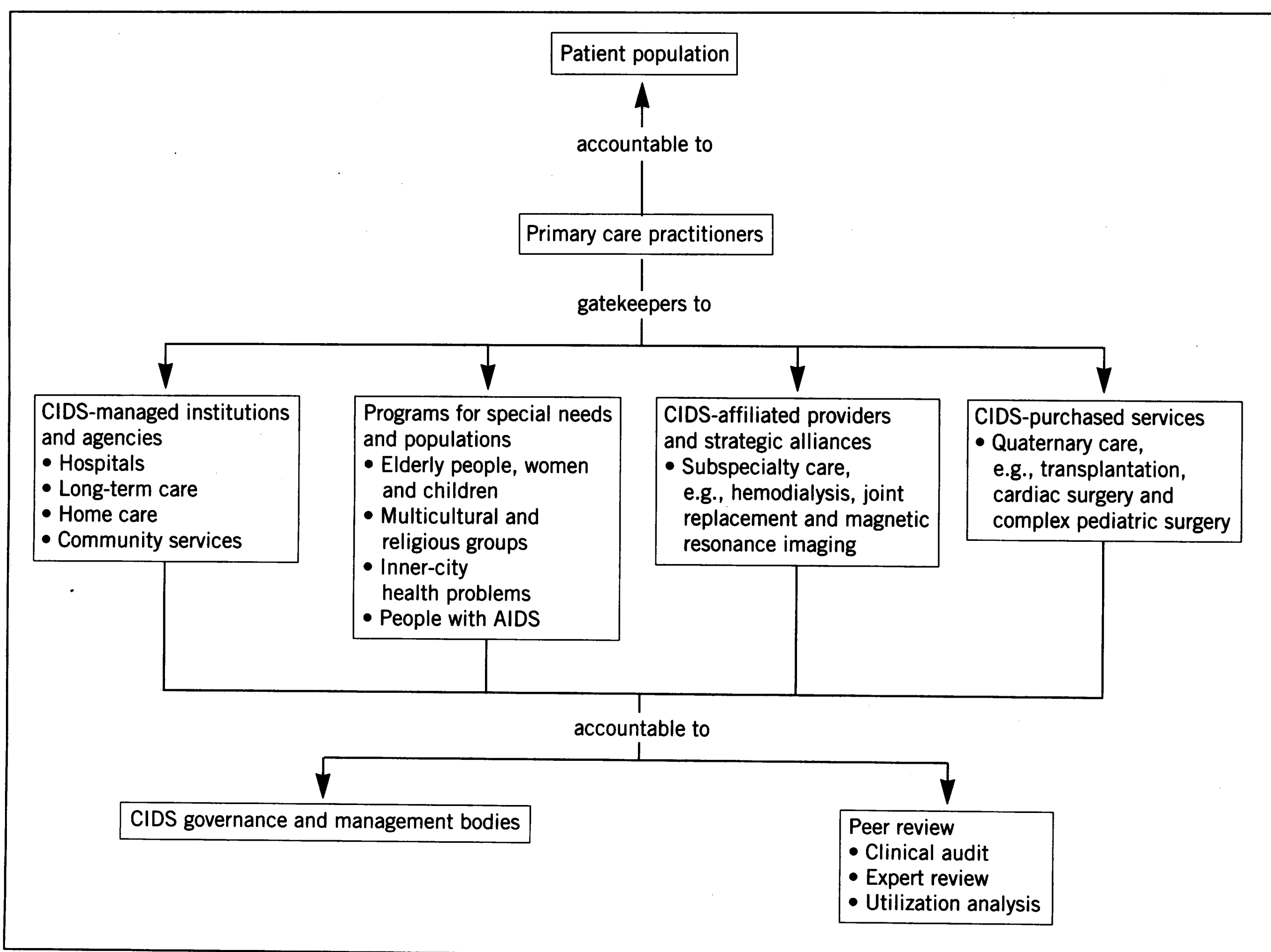

Fig. 2: Accountability and gatekeeping relations within a proposed CIDS.

ambulatory and interdisciplinary care. A recurring issue for medical faculties is the funding of research and educational activities by clinicians. In this regard, a funding strategy for maintaining academic excellence in a CIDS affiliated with or led by an academic centre would be needed. The CIDS model could stabilize revenues and provide the flexibility necessary to foster postgraduate education, to subsidize clinician-researchers and to support particular research initiatives.

Fostering innovation

Any CIDS would have a stake in innovations that improve quality and outcomes and control costs. As such, these organizations could reinforce and reward the creativity of many community institutions and practitioners who are adapting to funding cuts. Larger CIDSs, particularly those with academic ties, would have research and development arms that would concentrate on improving the effectiveness and efficiency of health care services and the overall health status of enrollees. As a corollary, competition among CIDSs would have to be friendly; it could not interfere with sharing of innovations to improve service delivery.

Conclusions

Integrated delivery systems would represent a major change in the organization of health care in Canada. They would create greater pluralism, a new level of accountability and a more dynamic system. In fact, the increase in provincial responsibility for financing health care has already resulted in greater pluralism among provincial systems. However, many provinces still cling to the concept of one type of system for all residents of a province and are reluctant to implement unique local systems. In contrast, the fundamental principle of a CIDS is that a health care system should be designed to meet the needs of the local populations served. Since these needs vary among populations, it is acceptable, and indeed appropriate, that health care systems also vary.

We believe that many physicians and hospital boards and managers are frustrated with the current approaches to regionalization and cost-cutting and that they are prepared to experiment with these types of systems. CIDSs could be developed under the umbrella of regional boards or, in nonregionalized systems, as an alternative to traditional clinics and hospital corporations. For physicians, affiliation with a CIDS with strong clinical leadership could be beneficial in terms of income stabilization and autonomy. Perhaps the greatest change would occur in the role of the provincial ministries of health. Their new role would be, first, to determine capitation payments in consultation with representatives of CIDSs and with providers not affiliated with CIDSs and, second, to assess the effect on access, quality, costs and outcomes. However, selected quaternary and highly specialized programs would still be funded and managed at the provincial level.

The involvement of the private sector in health care delivery is the subject of considerable debate nationally and provincially. The CIDS model emphasizes the primary goal of maintaining and enhancing the health of enrolled populations. Accordingly, the main role of the CIDS is to select the most appropriate mix of public- and private-sector providers that can achieve the best quality and outcomes for the lowest cost. Private clinics, laboratories, drug manufacturers, suppliers of devices and other private agencies could well qualify as the most appropriate health care suppliers.

Organized delivery systems in the United States have produced dramatic changes in a short period. Pilot projects in several communities in Canada would determine whether the CIDS is a feasible concept in the Canadian health care context.

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Conferences continued from page 780

Apr. 28–May 1, 1996: 87th American Oil Chemists' Society (AOCS) Annual Meeting and Expo
Indianapolis
AOCS Education/Meetings Department, PO Box 3489, Champaign IL 61826-3489; tel 217 359-2344, fax 217 351-8091

Apr. 29–30, 1996: Institute for Laboratory Managers
Don Mills, Ont.
Ontario Hospital Association, 150 Ferrand Dr., Don Mills ON M3C 1H6; tel 416 429-2661, fax 416 429-5651

May 3–4, 1996: The Miller Method: a Developmental Approach for Early and Later Intervention with Children Having Autism and Pervasive Developmental Disorders workshop (cosponsored by the Language and Cognitive Development Center of Boston and the Continuing Education Division, Department of Communicative Disorders, University of Western Ontario)
Toronto
Study credits available.
Nancy Anne Turner or Sheila McNamara, tel 800 218-LCDC

May 8, 1996: Practical Considerations in the Diagnosis and Treatment of Depression in Infants, Children and Adolescents symposium
London, Ont.
Child and Parent Resource Institute, 600 Sanatorium Rd., London ON N6H 3W7; tel 519 471-2540, fax 519 641-1922

May 8–9, 1996: Conference for Hospital Auxiliaries — Into the Next Generation
Don Mills, Ont.
Ontario Hospital Association, 150 Ferrand Dr., Don Mills ON M3C 1H6; tel 416 429-2661, fax 416 429-5651

May 10–11, 1996: 7th Annual Jack Crawford, MD, Pediatric Ophthalmology Meeting — Controversies in Pediatric Ophthalmology
Toronto
Jane Picknell, Department of Ophthalmology, Hospital for Sick Children, 555 University Ave., Toronto ON M5G 1X8; tel 416 813-5306, fax 416 813-6261

May 11, 1996: Medical Psychotherapy for Primary Care Physicians symposium
Toronto
Dr. Michael Pare, tel 416 229-2399

May 15, 1996: Legal Series II for the Health Care Industry — Workers Compensation Act
Don Mills, Ont.
Ontario Hospital Association, 150 Ferrand Dr., Don Mills ON M3C 1H6; tel 416 429-2661, fax 416 429-5651

May 23–24, 1996: Conference for Small Hospitals
Don Mills, Ont.
Ontario Hospital Association, 150 Ferrand Dr., Don Mills ON M3C 1H6; tel 416 429-2661, fax 416 429-5651

May 23–24, 1996: 27th Annual Contemporary Management of Cardiovascular Disease Conference
Toronto
Zabelle Barbarian, conference secretary, Heart and Stroke Foundation of Ontario, 4th floor, 477 Mount Pleasant Rd., Toronto ON M4S 2L9; tel 416 489-7100, ext. 431, fax 416 481-3439

May 25, 1996: 1996 Trillium Primary Care Research Forum (cosponsored by the University of Western Ontario and McMaster University)
Toronto
Keynote address: Dr. John Frank
Steve Slade, Trillium 1996, Department of Family and Community Medicine, University of Toronto, 801–620 University Ave., Toronto ON M5G 2C1; tel 416 978-8530, fax 416 978-3763; s.slade@utoronto.ca

May 30–31, 1996: Conference for Admitting Personnel
Don Mills, Ont.
Ontario Hospital Association, 150 Ferrand Dr., Don Mills ON M3C 1H6; tel 416 429-2661, fax 416 429-5651

June 2–5, 1996: Health: a Community Challenge — Joint National Conference and Exhibition 1996 (cosponsored by the Canadian College of Health Service Executives and the Canadian Healthcare Association)
Hull, Que.
Conference Secretariat, 17 York St., Ottawa ON K1N 9J6; tel 613 241-8005, fax 613 241-5055
Exhibition and Sponsorship Secretariat, 402–350 Sparks St., Ottawa ON K1R 7S8; tel 613 235-7218 or 800 363-9056, fax 613 235-5451; CCHSE@hpb.hwc.ca

June 11–14, 1996: Scandinavian Society of Radiology 52nd Congress
Uppsala, Sweden
Håkan Ahlström, scientific secretary, or Christl Richter-Frohm, secretary, Department of Diagnostic Radiology, University Hospital, S-751 85 Uppsala, Sweden; tel 46 18 66-4757, fax 46 18 55-7279; Hakan.Ahlstrom@radiol.uu.se or Christl. Richter Frohm@radiol.uu.se; website: http://www2.uu.se:80/insts/radiol/kongress.html

June 14, 1996: 38th Annual Departmental Research Day and 16th Clement McCulloch Lecture
Toronto
Guest speaker: Prof. D. McLeod, FRCS, FRCOphth
Dr. David S. Rootman, Department of Ophthalmology, University of Toronto, 115–1 Spadina Cres., Toronto ON M5S 2J5; tel 416 603-5401
Judy Cardwell, coordinator, tel 416 978-2635, fax 416 978-1522; J.Cardwell@utoronto.ca

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