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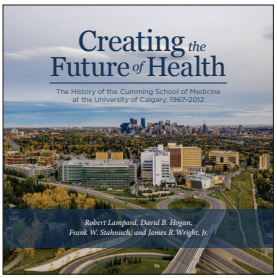

CREATING THE FUTURE OF HEALTH: The History of the Cumming School of Medicine at the University of Calgary, 1967–2012

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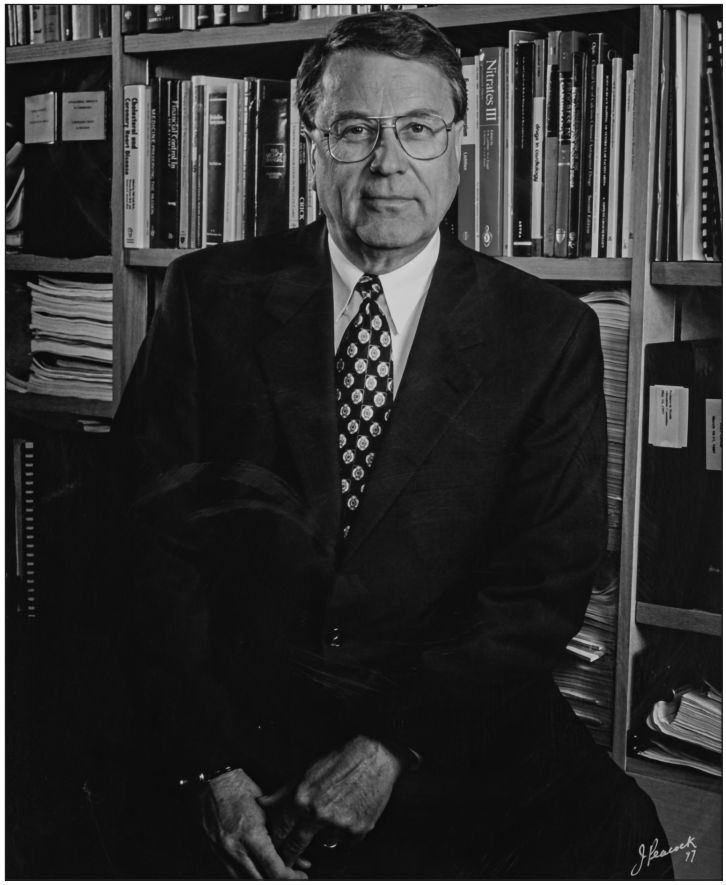

Eldon Raymond Smith
OC, MD, FRCPC, FACC, LL.D (Hon)

Chapter 4

The Dean Smith Years, 1992–1997

David B. Hogan

Early Signs of Trouble

Dr. Smith assumed the role of chief executive officer of the U of C Faculty of Medicine in July of 1992. Just before the start of his tenure there was a gathering of storm clouds.[1] That March, the AHFMR did not renew eight of the twenty-one faculty researchers who applied. Until 1991, when all nine U of C applicants were rejected, non-renewal was unusual. Financial support from the foundation was seemingly for a person's academic life. This was of great concern, as the AHFMR funded over a quarter of the medical school's faculty positions.[2] A petition signed by over fifty faculty members calling for the resignation of Dr. Spence, the president of the AHFMR, was only withdrawn after an emergency meeting with Dr. Smith and outgoing Dean Watanabe was held.[3]

Fortunately, the AHFMR Bridge Faculty Support Program, along with the creation of an institutional sustainability fund, stabilized the faculty's financial situation.[4] There were further grounds for optimism. For example, in 1993 the remote consultative network pilot linking the U of C Foothills campus site with Drumheller was launched,[5] and the joint review conducted by the Committee on Accreditation of Canadian Medical Schools (CACMS) and the LCME led to a full seven-year accreditation for the faculty.[6] Other events of note during the first seven months of 1993 failed to presage that anything extraordinary was going to occur. The second dean of the faculty, Lionel Everett McLeod, passed away in April from pancreatic cancer.[7] That month Gordon H. Dixon (1930–2016), a member of faculty, was appointed an officer of the Order of Canada.[8] Finally in July of 1993 the Dr. Clara Christie Lecture Theatre was dedicated. Dr. Christie (1895–1987) was the first female obstetrician in Alberta and practised in Calgary

for twenty-seven years.[9] In 1981, to honour her brother, she founded the Nat Christie Foundation. For over twenty years the foundation provided funding for worthwhile projects in the Calgary area before dissolving in 2003. Its last series of gifts included $3.5 million for the faculty.

The rains came in June when Ralph Klein (1942–2013) and the Alberta Progressive Conservative Party won a solid majority in the 1993 provincial election. One of Klein's key campaign promises was to eliminate Alberta's $3.4 billion (current dollars) deficit by 1996–7. To achieve this goal the so-called Klein doctrine was used. This entailed centralizing control of public expenditures in Edmonton; limiting the size of government by privatizing as much as possible; creating a low tax and royalty environment that encouraged investment; and offloading costs to municipalities and individuals.[10] Premier Klein described his approach to achieving these goals as follows: "Go fast, target the big three spenders [health, education, and social programs], be honest, be consistent and keep it simple"[11]

Deep funding cuts were announced when the provincial budget was tabled on 24 February 1994. Though education, advanced education and career development, health, and family and social services received "preferential treatment," and were therefore protected from the largest reductions, their expenditures were still projected to decline 12.4 per cent, 15.8 per cent, 18 per cent, and 19.3 per cent, respectively, by 1997.[12] The U of C Faculty of Medicine had to deal with the twofold impact of decreased funding in both advanced education and health. This led to declines in its operating budget and the concomitant loss of valued support staff, reductions in capital equipment funding, erosion of its clinical base, and a slowing in the recruitment of new academic faculty. In response to the decline in provincial funding, other sources of revenue had to be developed. As will be seen, notwithstanding these pressures, under the leadership of Dean Smith the medical school retained its core of excellence and made several remarkable educational and research contributions.

Cuts, Closures, and Creative Solutions: The Klein Revolution Comes to Calgary

In 1993 there were seven acute care hospital sites in Calgary (Alberta Children's, Bow Valley Centre, Foothills, Salvation Army Grace Women's Hospital [Grace], Holy Cross, Peter Lougheed Centre [PLC], and Rockyview) grouped into five organizations.[13] That year the boards of each of these organizations retained Price Waterhouse, a large international firm providing a variety of professional services, for objective advice on how to deal with an anticipated 20 per cent cut in funding and restructuring of the acute care hospital system in Calgary.[14] To inform this work, ten task forces were created. Recommendations submitted by these task forces included cutting the number of emergency, trauma, and obstetric units; consolidating pediatrics, neurosciences, and mental health emergency services; creating a women's

health institute with programs in three hospitals; and integrating geriatric and rehabilitation services within hospital sites. The cardiovascular services task force could not agree on whether interventional services should be provided on one or two sites.

Though the task forces dealt with individual programs, their suggestions foreshadowed the eventual closure of two, possibly three, acute care sites.[15] An early draft of the final Price Waterhouse report released in December of 1993 presented ten scenarios to local hospital leaders. The five that received the most serious consideration entailed closing three or four acute hospital sites (Alberta Children's, Bow Valley Centre, Holy Cross, and/or Grace).[16] In January of 1994, a modified final version of the Price Waterhouse report was presented to the local hospital leadership group. This and a proposal to establish a regional "superboard" for the city led to a series of urgent meetings to look at the various governance and operational options.[17] In February, the Price Waterhouse report was formally presented to the health minister. The favoured options of the authors of the report involved keeping the Foothills, Rockyview, and PLC hospital sites open while closing three of the remaining four (Alberta Children's, Grace, Holy Cross, and/or Bow Valley Centre).[18]

While this was going on, a provincial health roundtable was held in Red Deer from 26 to 27 August 1993. Over 160 people were invited to come and discuss health-care reform and funding. Though billed as a public consultation conducted by the provincial government, it has also been described as a well-scripted exercise "designed to sell Albertans on the new political agenda."[19] At the meeting, the case was made that dramatic action was needed to forestall the Province hitting a fiscal wall, but no specifics were provided in terms of how this would be done.

After the Red Deer meeting, a self-selected group of thirty-five health leaders known as the Group of 35 came together to devise a plan to achieve the desired savings of over $700 million without harming essential health services. In early 1994, the group submitted to the minister of health a fifty-page report outlining target-driven reductions in acute care utilization (which would necessitate closing hospital beds if projected savings were to be realized) and recommendations to de-insure some health services, require seniors to pay health-care premiums, and either to tax health-care benefits or charge a health-care "deductible."[20]

While Dean Smith had expressed confidence in September 1993 that significant health-care cuts could be made, he warned against large ones (i.e., 25 per cent or more).[21] The financial pressure, though, continued to increase. In October of that year, Premier Klein asked for concessions in public-sector wages. All health-care workers were targeted for a 5 per cent reduction in pay as of 1 January 1994.[22] In December 1993 the *Starting Points: Recommendations for Creating a More Accountable and Affordable Health System* report was released. It recommended more local control of health care. This led to the introduction of Bill

C-20 (the Regional Health Authorities Act) in March 1994.

This bill called for the creation of seventeen health regions and provincial boards whenever the minister deemed there was a need (there were two identified at the time—the Alberta Cancer and the Provincial Mental Health Boards). It also outlined the broad powers of the regional health authorities (planning and delivery of a wide range of health services within consolidated regional global budgets) and identified the numerous other acts that would have to be repealed or amended to allow this to take place.

While the establishment of regional health authorities would seem on the surface to go against the desire to centralize control for public expenditures in Edmonton, the act led to the elimination of nearly two hundred local hospital and public boards.[23] All funds for the regional authorities were provided by the Province, which controlled the authorities' budgets. Public complaints about health care could be deflected to the regional authorities and away from the provincial government.[24]

Early in 1994, Calgary hospital leaders complained that the actual and projected budget cuts to the city's hospitals of over 30 per cent would jeopardize key programs,[25] but they couldn't agree on which facilities should close. The hospital board chairs and the minister of health opted to strike a committee of three to break the gridlock on this issue and make a recommendation by the middle of April 1994. Former cabinet minister and chair of the Premier's Commission on Future Health Care for Albertans (1987–9) Lou Hyndman (1935–2013) accepted the invitation to head the panel.[26]

In their submitted report (created without seeking input from the U of C Faculty of Medicine),[27] they suggested closing the Holy Cross Hospital (which would become the major geriatric centre for Southern Alberta), Bow Valley Centre (converting it to a community health centre with a small emergency department and possibly a number of women's health programs run by the Grace foundation), Grace, and the Alberta Children's Hospital (moving its programs and services to the Foothills site). The land and buildings of the Grace and the Alberta Children's Hospitals would be sold, with 20 per cent of the returns going to their respective foundations. Acute care in Calgary would be concentrated at Foothills, Rockyview, and PLC. The total number of hospital beds would drop by a third, from about 2,700 to approximately 1,800.[28]

Initial public reaction to the proposed closure of the Alberta Children's Hospital was particularly negative.[29] A rally of about five hundred people was held against this recommendation.[30] Pediatrician Dr. Ian Mitchell, vice-president of the Children's Hospital and member of U of C faculty, was quoted in the *Calgary Herald* as saying that the call for the hospital to move to the Foothills Hospital site was "nonsense and detrimental to children" and the health-care system.[31]

The recommended closure of the other three hospitals also led to objections.[32] The medical vice-presidents of the Calgary General Hospital and the Calgary District Hospital Group jointly

called for a temporary closure of the Holy Cross with the final decision of which of the two downtown hospital sites—Holy Cross and Bow Valley Centre—to close permanently being made at a later date; they also recommended the permanent closure of the Colonel Belcher, Grace, and perhaps the Alberta Children's Hospital.[33] After the report was released, the chair of the Board of Trustees for the Grace began discussions with the chair of the Foothills Hospital Board about a site partnership agreement between the two; it was suggested that the two organizations would occupy the same site but operate independently. These discussions led to a proposal that the operations of the Grace be moved to the Foothills site while maintaining its name and Salvation Army involvement.[34]

In June of 1994, the Regional Health Authorities Act was passed.[35] Appointment of the board for the Calgary Regional Health Authority (CRHA) followed quickly.[36] That July the CRHA announced its plans to close the Bow Valley Centre, Holy Cross, and Grace sites while retaining the Alberta Children's Hospital.[37] Dr. Larry Bryan was appointed the CRHA's chief executive officer but quit in 1995 because of burnout.[38] Paul Rushforth replaced him (Bryan later wrote a book about the design of health-care systems[39]). At the time, some complained that the CRHA was "stacked with Foothills representatives." For example, John Robert (Bud) McCaig (1929–2005), who chaired the CRHA Board,[40] was the former vice-chair of the Foothills Board and chair of its charitable foundation, while Dr. Bryan, the CRHA's chief executive officer, was the former president of the hospital.[41]

Even though the Province was running a surplus by 1994–5, the financial squeeze on health-care funding continued with the major public-sector labour unions and other stakeholder groups like the Alberta Medical Association seemingly powerless to prevent it.[42] This changed in November 1995 when 120 Calgary laundry workers who had accepted a 28 per cent pay cut in an effort to keep their jobs were told that their positions were going to be contracted out. With nothing to lose they walked off the job in a wildcat strike that was greeted with a remarkable degree of public support.[43] Shortly afterwards, the provincial government announced that further planned cuts in health-care funding would be suspended.[44] In his book *King Ralph*, Don Martin dates the end of the Klein revolution to this event.[45] While Albertans supported the government's deficit-elimination strategy, there was growing concern about its impact on public services.[46] By late 1995, in the face of the positive provincial budget and increasing evidence that the government did not have a well-thought-out plan for restructuring, a tipping point had been reached.[47]

In the December 1995 issue of *The Bulletin*, the faculty's monthly newsletter, Dean Smith acknowledged with gratitude the provincial government's decision not to enact further proposed health-care cuts of more than $53 million for 1996–7. But at the same time, he noted the continuing pressure, especially on acute care in Calgary and Edmonton, which had experienced overall budget reductions of 25 per cent—or 35 per cent when inflation was considered. He wrote, "Whether we can conserve

quality in the system with the current budgets (even without further reductions in 1996–1997) remains a question to be answered."[48] Total health-care spending per capita from the public sector in Alberta, then at less than $1,400 (current dollars) per year, was the lowest in Canada. Four per cent of the provincial GDP was being spent on health from the public purse, a rate lower than public expenditures in the United States. While it is well known that a higher percentage of the GDP is spent on health in the United States than other countries, it is less appreciated that much of this expenditure comes from the private sector, not government. During the 1990s, approximately 71.6 per cent of all health-care spending in Canada was publicly funded, compared to 42.3 per cent in the United States. The point Dean Smith was making was that even if restricted to a discussion of public expenditures, Alberta was spending less on health care than the United States. Considering this, it was hard for Dean Smith to understand why there was so much interest in the privatization of health care. He asked that the issue of the costs of medical education and clinical research be addressed.[49]

Dean Smith's article was picked up by the local press,[50] and in a letter to the *Calgary Herald* then deputy health minister Jane Fulton (b. 1947) did not dispute the extent of the budget cuts to urban acute care hospitals.[51] In late 1996, Dean Smith told the governing council of the Alberta College of Physicians and Surgeons that "reform of the healthcare system has been sideswiped by restructuring to meet financial targets."[52] And in a subsequent faculty newsletter, he made the case that some of the recent reinvestment in health should be targeted to education and research.[53]

The hospital closures ran their course. The Grace relocated its maternity services to the Foothills site in 1995.[54] Between January and March of 1996, both the Grace and Holy Cross Hospitals closed.[55] A formal agreement reached between the Salvation Army and the CRHA ensured that the Grace name would be retained, with the Grace Women's Health Centre relocating to the North Tower of the Foothills site. This building was the former residence of the Foothills School of Nursing. Responsibility for delivery and neonatal care was assigned to the Foothills Hospital, while the centre would look after a variety of ambulatory, information, and education services.[56] The Bow Valley Centre was gradually decommissioned between April and June of that year. This entailed closing a million square feet of space, transferring an equal number of patient files, and relocating or eliminating 2,000 staff, 3,000 phones, 1,000 computers, and 100 programs and services.[57] The buildings that housed the centre were imploded on 4 October 1998.[58] The Bow Valley Centre was the largest North American hospital ever to be shut down with its functions, equipment, staff, and patients transferred to other facilities. Its closure left Calgary as the only large Canadian city without a downtown emergency department.[59]

In 1994, Alberta physicians reluctantly agreed to a nearly $60 million cut in their fees. While lower fees would be paid for all insured services, a good deal of the cost savings was to come from an agreement to phase out fee-for-service payments

for laboratory tests. Private laboratory physicians became salaried, with their compensation approximating what laboratory physicians received in the public sector. Regional health authorities assumed responsibility for funding medical laboratory services. The amount provided by the provincial government for laboratory services ($170 million compared to the $244 million spent prior to regionalization) made it clear that the government's intent was to substantially decrease the amount being spent on laboratory investigations.[60] Massive restructuring to eliminate duplication and excess capacity led to widespread job losses for laboratory technicians (see table 1 below), the departure of approximately 40 per cent of the province's pathologists, and the closure of many community collection sites. In Calgary, this led to the merger of the surviving private commercial laboratory and the four remaining hospital laboratories to create Calgary Laboratory Services.[61]

Table 1: Alberta Health Workforce[62]

	1992	1993	1994	1995	% Change (1992–5)
Total Personnel					
(employed)	64,942	65,512	58,248	51,639	-20.5%
Physicians[a]	4,542	4,571	4,645	4,575	0.7%
Dentists[a]	1,389	1,444	1,430	1,427	5.1%
Medical Laboratory Technologists[b]	2,621	2,338	2,309	1,756	-34.5%
Licensed Practical Nurses[b]	4,331	4,161	3,653	2,499	-42.3%
Registered Nurses[b]	19,033	17,652	15,359	10,758	-43.5%

[a] Registered: for physicians excludes out-of-province, retired, non-practising life members, members on courtesy or education registries or physicians registered in Special ("provisional") Register; for dentists (included in table as a comparator) excludes inactive and retired members and some dentists who worked for the federal government but were not registered with the Alberta Dental Association.

[b] Practicing or employed (both part-time [less than 30 hours per week] and full-time [30+ hours per week]): in 1995 a lower than usual response rate for hospitals and health units was experienced and as such, employment numbers may be under-represented. The uncertainty about the actual numbers also reflects the degree of disorganization within the health-care system at this time.

Meeting the Challenge

A paper authored by Charles H. Hollenberg (1930–2003), a well-known physician and member of the Canadian Medical Hall of Fame,[63] on behalf of the editorial committee of the Canadian Institute for Academic Medicine—which included Dean Smith and former Dean Watanabe—explored the impact of health-care reform during the 1990s on academic medicine.[64] The challenges faced in Alberta and elsewhere in Canada included such things as reductions in the number and size of teaching hospitals, the creation of regional, multi-institutional decision-making bodies, restrictions on departmental finances, cuts in the number of funded undergraduate and residency positions, and increasing emphasis on clinical and health-system research, arguably to the detriment of biomedical research.

An existential threat facing the U of C Faculty of Medicine during this period was speculation over the future of the two medical schools in Alberta. In a "From the Dean" column in December 1993, Dr. Smith noted that "we continue to hear some people ask whether Alberta needs two medical schools."[65] The argument for retaining two schools included the need to train the number of physicians required by the province, the inability of either Calgary or Edmonton on its own to provide the required clinical experiences for 600–800 medical students and 700–800 residents, improved access to specialty services for the residents of both cities, the direct and indirect local economic impact of the faculties,[66] the substantial sizes of the two cities, and the impossibility of deciding which faculty to close.

In a 1994 open-line television broadcast, Premier Klein directly raised the possibility of closing law and medical faculties in response to the need for spending cuts. He asked if the province needed "two massive schools of medicine."[67] Premier Klein often used comments like this as trial balloons to test public reaction to possible government action.[68] The minutes for the 14 December 1994 FC meeting recorded that Deans Smith and Lorne Tyrrell (the dean of the U of A Faculty of Medicine and Dentistry) had met with the deputy minister of advanced education and career development to advocate for two medical schools.[69] They were reassured that there were no plans at that time to downsize or close a medical school. Because of persisting concerns, though, in 1995 the two deans co-authored a guest column in the *Calgary Herald* making the case that Alberta required two medical schools.[70] These efforts had the effect of fostering greater co-operation between the two faculties of medicine.[71]

To deal with declining government funding, the U of C in 1993 announced spending cuts of 17 per cent for academic units and 20 per cent for support services over the next five years, along with increases in tuition fees.[72] Between 1993 and 1996, the Faculty of Medicine's budget declined by 12 per cent.[73] Among other impacts, this led the Medical Library Committee to cancel 170 periodical subscriptions.[74] Between 1992–3 and 1996–7 there was an 87 per cent increase in medical tuition fees for Alberta residents (see table 2).

Table 2: Changes in the faculty, 1992–7 (Source: Canadian Medical Education Statistics, Association of Canadian Medical Colleges)

	1992–3	1996–7	% Change
Class Size	72	69	- 4%
Number of Graduates	73 (1993)	57 (1997)[a]	- 22%
Tuition			
Canadian	$3,162	$5,922	+ 87%
Non-Canadian	$6,324	$10,784	+ 71%
Foreign (above quota slots)	-	$30,000	N/A
Enrolment (MD program)			
Men	132	104	- 21%
Women	88	104	+ 18%
Albertans	162	125	- 23%
Total	220	208	- 5%
Enrolment (Graduate Science)			
MSc	92	144	+ 57%
PhD	90	95	+ 6%
Post-MD Trainees	301 (11/92)	322 (11/97)	322 (11/97)
Faculty Members			
Full-Time	291	294	+ 1%
Part-Time	634	763	+ 20%
Research Expenditures			
Total ($000s)	$38,711[b]	$47,232	+ 22%[c]
Rank	9th	9th	N/A

[a] Appears to be an aberration as the previous year there had been 67 graduates, and the year after there were 71.

[b] It would have been worth $40,983 in 1997 (Bank of Canada Inflation Calculator, http://www.bankofcanada.ca/rates/related/inflation-calculator/ [accessed 6 May 2013]).

[c] 15% if corrected for inflation.

As with other Canadian medical schools, the U of C Faculty of Medicine made efforts to diversify its revenue base.[75] This included vigorously seeking financial support from private sources. The Partners in Health campaign (initially called "Breakthroughs") was launched in February of 1995 with a fundraising target of $50 million, which made it the largest campaign of this nature ever launched up to that date in Alberta. Harley Hotchkiss (1927–2011) and Richard Haskayne (b. 1934) initially chaired the campaign with Jack MacLeod and Mona Libin serving as vice chairs.[76] The faculty-CRHA joint effort was designed to seek funds to support health care, education, and research. Proceeds, though, were not to replace government funding for basic programs—rather, they were to support world-calibre programs, allow the launch of innovative programs and services, and maintain critical infrastructure. Designated clinical priorities included heart health, stroke, trauma, joint injury and arthritis, women's health, and cancer care. Additional areas targeted for support included information systems and educational resources (e.g., remote consultation, library), the addiction centre at the Foothills Hospital, equipment purchases, and the Edge of Excellence Fund, which would allow the recruitment and retention of highly sought-after individuals.[77]

A total of $51.6 million was eventually raised.[78] This allowed for the establishment of the Seaman Family Magnetic Resonance Centre (which permitted the Faculty of Medicine to successfully compete for nearly $5 million in federal funding three years later), support for a women's health program through a donation from Nova Corporation, and the creation of a research chair in Alzheimer's research with funds from the Brenda Strafford Foundation, among other initiatives.[79] These successes, however, came at a cost. In the December 1995 issue of *The Bulletin*, Dean Smith noted that the fundraising campaign "continues to consume a great deal of my time which does make me less available for other matters."[80] The United Nurses of Alberta also expressed concerns that the Partners in Health campaign was giving too much influence to donors.[81] Steps were taken to minimize the likelihood of this happening, which included linking identified internal needs with the interests of donors. At least one sizable potential donation was turned down because of the strings that would have been attached to it.[82]

Making the MD program available to paying international students was also explored to generate additional revenue. In the spring of 1993, extensive discussions took place at an FC meeting about a proposal to accept students from the International Medical College (IMC), a private English-language health sciences university in Kuala Lumpur, Malaysia, for completion of their medical training. Dean Smith felt the U of C medical school had the required capacity; the question was whether the faculty should proceed. The proposal outlined at the meeting was to take in on a yearly basis approximately five Malaysian students. After three years of preclinical training at the IMC, they would enter the second year in Calgary. Graduate clinical training would take place in Malaysia. A tuition fee of $25,000 per year

would be charged (in 1992–3 an Alberta resident's tuition fee was $3,162; see table 2 above). Concern was expressed about the undesirability of "turning away approximately 1,000 Canadian applicants to our medical school each year and then making it possible for students to buy their way in." Dean Smith responded that "the reason for cutting back on Canadian student admission was a national issue of oversupply. . . . Malaysia needs 20,000 doctors . . . [and steps would be taken] to ensure all these students return to their own country." The dean concluded deliberations by asking if there were any strong objections to proceeding with the matter. None were voiced.[83] At the September 22 FC meeting, it was announced that Dr. Baumber had signed a memorandum of understanding with the IMC on behalf of the U of C faculty.[84] The agreement was finalized in 1994, with Malaysian students accepted into the faculty outside of the usual admissions process.

In 1995, the EFC approved a proposed agreement with the Tyumen Oblast region of Russia. The FC was subsequently asked to accept the recommendation that three Russian and one Canadian student be accepted into the U of C's MD program. The Canadian student was of Russian heritage, fluent in the language, and chosen by the Russian sponsors. It was argued that this student would help the other three acclimatize to Canada. The Canadian student would have separate agreements with both the U of C and Tyumen Oblast to ensure that they would not be included in the Canadian graduate training matching process and would spend a minimum of three years in Russia at the end of their medical training in Calgary.[85] The FC turned this proposal down.[86] Once again, faculty members expressed their frustration that well-qualified Albertans were not able to gain acceptance into medical school because of the hard cap on Canadian student numbers while international students were being accepted. Also at issue was the implications of the proposed payback service for the students (especially the Canadian national) accepted into the program.[87]

The FC returned to this issue later in 1996 when it considered a proposal to accept up to twenty-five international medical students per year from prosperous developing countries (i.e., Malaysia, Hong Kong, Taiwan, Kuwait, Saudi Arabia, Brunei, and Russia). A *Calgary Herald* article titled "Foreign Medical Students Sought as Tuition Source" stated that these students would pay $30,000 a year in tuition (compared to the $5,922 [see table 2] local students paid in 1996–7); this could raise $2.25 million (current dollars) per year for the faculty and help cover the budget cuts the school had to deal with. Dean Smith was quoted as saying, "We think we can help those countries and at the same time help us." He noted that the foreign students would not be taking positions away from Canadians and would pay the full cost of their education. And because of cuts in the number of Canadian medical students the faculty had surplus capacity.[88]

The dean's contribution to the July–August 1996 issue of *The Bulletin* elaborated further on this proposal. The class of '99 included a student from the IMC, and it was hoped that five or six

IMC students would come to Calgary in 1997. The agreement with the IMC was the first undergraduate agreement, though there was a prior contract with Saudi Arabia for residency training.[89] A faculty task force had developed a proposal to govern the future development of such arrangements, and that was to be discussed by FC in September. The rationale for accepting international students was to maximize the use of an excellent educational system constructed for approximately one hundred students per year, coupled with the desire of many countries with rapidly developing economies for practitioners trained in "Western-style" medicine. These countries lacked an adequate number of physicians and the required infrastructure to quickly develop training programs. Students would pay the full cost of their education and not qualify for graduate clinical training in Canada. As Dean Smith wrote, "We can help other countries develop their health care system while receiving fees which will be very welcome at this time of budget reductions."[90] The FC approved the proposal at its 25 September 1996 meeting.[91]

To deal with declining revenue, the faculty tried to increase organizational efficiency by slowing the growth of academic faculty, cutting support staff positions, consolidating overlapping units, and deferring spending where possible. Between 1992–3 and 1996–7 the total number of full-time faculty equivalents grew by 14 per cent (compared to a 67 per cent increase over the previous five years), while there was a 23 per cent decline in full-time support staff equivalents. Proposals to restructure the faculty were also considered. The March 1996 issue of *The Bulletin* dealt with potential collaborations within and outside the university. Internal university discussions had taken place about the creation of faculty "groupings" that would make strategic sense. One such grouping was comprised of a Faculty of Health Sciences that would consist of kinesiology, medicine, nursing, and possibly social sciences, education, and/or social work. The major external partnership would be with the Faculty of Medicine at the U of A.[92] To further this goal, in mid-1995 the deans of the two schools established a task force to create an inventory of current collaborative work, identify new opportunities for either joint programs or consolidation, and explore how information technology could facilitate these initiatives. The task force's final report itemized the extensive interactions already taking place between the faculties and recommended the creation of a Provincial Academic Health Alliance.[93] The report referred to early discussions about an alternative funding plan for academic physicians in the province. Dean Smith had also referred to this in his March 1996 "From the Dean" column.[94] A consulting firm was retained to explore this further, and in their report to the Council of Academic Health Centres of Alberta, it recommended that one be developed.[95]

By 1996, the worst of the budget cuts had occurred—and in fact, additional provincial funds were now becoming available. For example, $2 million had been allocated to both the U of A and U of C by the provincial government through the Research Excellence Envelope to recruit new research faculty.[96]

But the U of C Faculty of Medicine was not focused solely on its finances. Major effort was also brought to bear on other important matters, such as addressing sexual harassment as well as gender and employment equity. To this end a variety of initiatives, including the employment of a full-time adviser and the running of frequent educational events, were implemented.[97] The Gender and Equity Issues Committee was struck in 1994 and chaired by Dr. Renée Martin, a human geneticist with the U of C faculty; it held symposia on gender issues in 1994, 1995, and 1996.[98] While significant strides have been made, there remains room for improvement in the matters of sex, gender, and employment equity. In 1994 women occupied only 19 per cent of academic positions.[99] While the percentage had risen to 31 per cent by 2017, this is still significantly lower than the proportion of women in the general population.

Educational Program

In January of 1993 it was announced that the number of incoming medical students at the U of C and U of A would decrease by a total of 19.[100] Before these cuts the U of C was enrolling 72 students per year; this now declined to 69. Overall, between 1992–3 and 1996–7, the number of medical students in Calgary dropped by 5 per cent (see table 2 above).

Between 31 May and 3 June 1993, the ad hoc accreditation team for the CACMS and the LCME surveyed the faculty. In their final, laudatory report they noted the "palpable sense of excitement about, and clear and widespread commitment to, education" and the positive relationship the school had with its major affiliated teaching hospitals (which had to be recreated with the CRHA, which assumed responsibility for these hospital in 1994).[101] But even before the deep budget cuts of 1994 the potential reduction in financial support from the provincial government was identified as the faculty's primary concern.

In December of 1994, Alberta Health announced plans to curb the number of new doctors coming to the province. Only 210 new physicians would be allowed to register with the Alberta Health Care Insurance Plan the following year. While the anticipated number of graduates from the U of C and U of A could still be accommodated even if all wished to stay in the province,[102] this fed into a perception within the profession that physicians were neither wanted nor needed in Alberta. During the mid-1990s, it was reported that a significant portion of graduating family physicians in Alberta were electing to leave for the United States. Dr. William Hall, then acting head of family medicine at the U of C, worried that the migration of these highly trained young physicians would create a "demographic hole."[103] There was also concern about the recruitment and retention of physicians in other areas of specialty practice.[104] For example, in 1993 there were eleven neurosurgeons in Calgary; by 1997, that number had declined to seven, with wait times for non-emergency neurosurgery increasing from six or eight weeks to over a year.[105] The author of an article in the *Journal of Emergency Medicine*

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Adult Teaching Hospitals

Graduate medical education was offered at the Baker Memorial Sanatorium (closed in 1980), Calgary General Hospital (CGH), Colonel Belcher Hospital (CBH), and Holy Cross Hospital (HCH) long before the opening of the U of C Faculty of Medicine.[1] The latter three facilities, plus the Alberta Children's Hospital (discussed elsewhere), the Salvation Army Grace Hospital,[2] the Rockyview General Hospital (RGH), the Foothills Medical Centre (FMC), the Peter Lougheed Centre (PLC), and the South Health Campus (SHC) became indispensable partners to the school in fulfilling its responsibilities.

Calgary District Hospital Group: The Calgary District Hospital Group (CDHG) ran the HCH, CBH, and RGH.[3] It was also responsible for the PLC before control was transferred to the CGH.

In 1891 four members of the Sisters of Charity of Montreal (Grey Nuns) established the HCH. In late 1892 the hospital moved to its permanent location, just west of the Elbow River in the Mission district.[4] A school of nursing was established in 1907. It produced more than 2,400 graduates by the time it closed in 1979.[5] In 1936 the HCH became the first city institution with a recommended internship program.[6] Six years later the first cancer clinic in Calgary was established in an unused operating room on its third floor. In 1948 the clinic moved to the basement before relocating in 1959 to a free-standing building at the HCH site.[7] Drs. George E. Miller[8] and John C. Morgan[9] launched interventional cardiology and open-heart surgery in Calgary at the HCH during the late 1950s and early '60s.[10] Over the years the HCH grew to a nearly 500-bed facility. The Province of Alberta purchased the HCH in 1969, with control transferred to the CDHG in 1970. The hospital closed in 1996, and the buildings sold the following year to Enterprise Universal.

In 1919 the CBH opened for veterans in a renovated warehouse on 8th Avenue SW before moving in 1926 to a nearby building.[11] The hospital was named after Lieutenant Colonel Robert Belcher, an original member of the North-West Mounted Police who helped raise the 138th Battalion of the Canadian Expeditionary Force.[12] The Department of Pensions and National Health purchased the Senator Patrick Burns property on 4th Street SW in 1941. The new 250-bed CBH opened there in December 1943. Bed capacity eventually rose to 400. The hospital was known for its general surgery program and a gastrectomy named after it.[13] Approval for internship training was obtained

in 1946, with graduate medical training in internal medicine and general surgery offered during the 1960s. Ownership was transferred to the Province in 1979, with the CDHG assuming administrative responsibility the following year. In 1991 the CBH was designated a veterans' long-term care facility and in 2003 moved to a new building constructed for this purpose at 1939 Veterans Way NW. The 4th Street SW building was demolished and is now the site of the Sheldon M. Chumir Centre.

The RGH, on the shores of the Glenmore Reservoir, opened in October of 1966 as a 200-bed facility for surgery.[14] As of 2018, it had 615 beds[15] providing medical and surgical services to Calgary and Southern Alberta. The RGH is the site of the Southern Alberta Institute of Urology, which is supported by a $10-million donation by Daryl (Doc) Seaman and W. Brett Wilson.[16]

Calgary General Hospital: The CGH opened as the Cottage Hospital on the corner of 7th Street and 7th Avenue SW in November 1890.[17] It moved in 1895 to 12th Avenue and 6th Street SE (just north of the present Stampede grounds) before relocating in 1910 to Centre Avenue SE in the Bridgeland-Riverside neighbourhood north of the Bow River. Rebuilding, renovations, and additional construction eventually led to an approximately 960-bed facility. The hospital had a number of outstanding clinical programs, including a rheumatic disease unit and trauma service.[18] The CGH School of Nursing opened in 1895 when the first "probationer" was admitted and closed in 1974 after a total of 2,940 graduates.[19] In 1940 the Board of Trustees of the CGH agreed to take on interns.[20] The hospital played an important national role in the development of family medicine training.[21] When the PLC opened in 1988, the Centre Avenue facility was renamed the Bow Valley Centre (BVC) of the CGH.[22] The BVC closed in April 1997; the building was imploded in 1998. The PLC remains open in the northeast quadrant of the city as a 522-bed facility.[23]

Foothills Medical Centre: The NW facility opened in June 1966 with 766 beds.[24] There was a nurses' residence, a school of nursing (which was open from 1965 till 1995 and graduated approximately 2,500 nurses),[25] and a power plant on the site at the time of its opening. Over the years, additional university (Health Sciences Centre, Heritage Medical Research Building, Health Research Innovation Centre, Teaching, Research, and Wellness) and health-care (South Tower, Special Services Building, Tom Baker Cancer Centre, J. R. (Bud) McCaig Tower) buildings have been added. At 1,081 beds,[26] the FMC is the largest hospital in the province and provides comprehensive specialized medical and surgical services to Calgary and Southern Alberta. The FMC was identified early on as the primary hospital site for medical training in Calgary.[27]

Salvation Army Grace Hospital: In 1924 The Salvation Army bought the former Bishop Pinkham College on 8th Avenue and 13th Street NW to establish a maternity hospital; the facility opened in 1926. While the focus was initially on unwed mothers, married women soon sought admission because of the quality of the care provided.

Additions and renovations over the years led to a 100-bed facility offering a range of women's health programs. During its existence, Salvation Army officers served on the Board of Directors while the executive director was always a member of the Salvation Army. In the mid 1990s the hospital closed with maternity care and the Women's Health Resource Program transferred to the Foothills site.[28] The site became a private surgical facility for knee and hip replacements until 2010.[29] It is now home of the Riley Park Health Centre, with the Salvation Army Agapé Hospice in a neighbouring building.

South Health Campus: Located at 4448 Front Street SE, the SHC opened after the period described in this history of the Cumming School of Medicine. Construction began in 2007, with the first phase, built at a cost of $1.3 billion, opening in September 2012.[30] It currently has 272 in-patient beds and a variety of ambulatory programs.[31]

worried about a "manpower drain" in emergency medicine for Calgary; indeed, he noted that he was himself leaving the province for Saudi Arabia.[106] Notwithstanding these concerns, however, the migration of physicians out of the country had relatively little effect on the overall physician-population ratio in Canada between 1993 and 2000.[107] As seen in table 1, the overall number of physicians in Alberta changed little during these years.

The major physician-distribution issue that Alberta faced during the 1990s was the recruitment and retention of physicians in rural and remote communities. In 1991–2, the Rural Physician Action Plan (RPAP) was launched to address this issue. This comprehensive program included initiatives directed at modifying the undergraduate and postgraduate medical education experience, so it would encourage trainees to locate in a rural community, addressing the professional issues of practicing family physicians and helping rural communities identify and meet their physician resource needs.[108] From its inception, the RPAP was strongly supported by the U of C Faculty of Medicine. A 1996 evaluation concluded that, notwithstanding the dramatic changes that had taken place in the health-care system since its inception, the RPAP had succeeded in stabilizing the overall level of physicians in rural Alberta.[109] The Government of Alberta has continued to support the RPAP over the years and has expanded its mandate to also consider non-physician training. It has been renamed the Rural Health Professions Action Plan (RHPAP) to reflect this.[110]

In Canada, only the U of C and McMaster offer three-year curricula. At Calgary this was not done by cramming four years' worth of material into three years by teaching on Saturdays or during evening sessions. The school year, though, is longer than in four-year programs, which means the total weeks of instruction are not dissimilar. The duration of the undergraduate medical program at the U of C in 1993 was 136 weeks over the three years, compared to 144 weeks over four years for a student at the U of A.[111] Other features that distinguished the U of C medical curriculum included early contact with patients, emphasis on clinical problem-solving, co-operative small group learning, self-directed learning and independent study, an interdisciplinary organization, explicit training in communication skills, early use of standardized patients, inclusion of training about the impact of cultural issues on the provision of health, and a non-competitive (pass/fail) evaluation system.[112] Research indicates that Calgary graduates perform as well as those from four-year programs at other Canadian schools.[113] However, the relative advantages and disadvantages of a three-year curriculum remain the subject of debate.[114]

The MD course underwent a major renewal with the creation and launch of the clinical presentation (CP) curriculum during the Smith deanship.[115] Its development was led by Dr. Henry Mandin, then associate dean of undergraduate medical education. First offered to the incoming first-year class in 1994, it represented a change from the body-system format utilized since the faculty's founding. It was built around the premise that there is a finite number (initially estimated to be about 120) of CPs (defined as a common and important way in which patients present to a physician). Material created for the faculty's first clerkship class and a draft of the objectives for the qualifying examination of the MCC (which referred to CPs as "presenting features") were used to create an initial list that was refined by faculty. Local experts in specific clinical presentations were then approached to develop terminal objectives for each selected CP. What the student had to learn was organized according to expert-derived "schemes," which provided both scaffolding to integrate material and an approach to the diagnosis of these presentations. Other schools showed interest in the CP model, with a number adopting it.[116] Despite efforts to evaluate the impact of the CP curriculum on specific aspects of medical-student learning,[117] it remains unclear whether it is more effective than other curricular approaches. Most of the variation seen on national test performance arises from inter-individual differences among students, with only small contributions attributable to the schools themselves. Little is explained by differences in curriculum or educational policies.[118] As D. R. Ripkey and D. B. Swanson wrote, a specific "curricular approach may be less important than the quality of the curriculum implementation."[119]

The May 1997 "From the Dean" column noted that the change to the CP curriculum was now complete. Representatives from the University of Florida had recently visited Calgary and they were planning to implement a similar curriculum at

their school. Dean Smith recognized Dr. Henry Mandin for his contributions to the CP approach.[120] Dr. Mandin has also received national and international recognition for his contributions to medical education, including the Duncan Graham Award from the RCPSC in 2011, which honours individuals for outstanding long-term contributions to medical education. Four other Duncan Graham Award winners from the U of C are former Dean M. Watanabe (1994), Dr. A. Keith W. Brownell (2002), Dr. I. John Parboosingh (2008), and Dr. Rachel Ellaway (2019). In 2001 the University of East Anglia (UEA) conferred on Dr. Mandin an honorary doctor of science degree in recognition of his role in advising the UEA on its successful bid for the formation of a medical school.

The medical expert objectives for the MCC's qualifying examination are now primarily structured around CPs. Drs. Mandin and J. S. Baumber of the Faculty of Medicine led in their initial creation and subsequent refinement.[121] Dr. Baumber was a founding member of the U of C faculty. Born in England, he received an undergraduate degree in zoology from Nottingham University, followed by an MSc and a PhD from Queen's University in Kingston, Ontario. He held numerous administrative positions within the U of C, including assistant dean of admissions and student affairs, associate dean of undergraduate medical education, and director of the Office of Medical Education. Dr. Baumber was president of the MCC for 1992–3 and first editor of objectives for the MCC's qualifying examination. In 2000, he received the MCC's Dr. Louis Levasseur Award (given annually to an individual who has contributed in an extraordinary manner to the MCC), and in 2009 the Order of the University of Calgary.[122]

With Gerald M. McDougall, John A. Toews, and Jocelyn Lockyer, Dr. John Parboosingh contributed to Calgary becoming a "powerhouse in CME" known for its innovative approach and extensive research program.[123] Dr. Parboosingh moved to Ottawa in 1993 as first associate director of the Royal College's Office of Fellowship Affairs, and then the first director of its Office of Professional Development (1998–2002). He provided leadership to both the voluntary Maintenance of Competence project (MOCOMP) from 1993 to 1999 and the mandatory Maintenance of Certification (MOC) program that replaced it.[124] The MOCOMP was awarded the 1996 continuing professional education Award of Excellence by the American Association of Adult and Continuing Education.[125]

Dr. A. Keith Brownell received his MD degree from Queen's University and was subsequently certified in neurology by the RCPSC. He joined the U of C Faculty of Medicine in 1975. Key educational positions he has held include program director for internal medicine (1979–85) and neurology (1986–8), associate dean for graduate clinical education (1988–97), chair of the Evaluation Committee of the RCPSC, chair of the Association of Canadian Medical Colleges' Postgraduate Medical Education Committee (1993–5), member of the RCPSC Committee on Postgraduate Medical Education, co-chair of the Professional Role

Task Force for the CanMEDS 2000 project, and chair of the CanMEDS Implementation Subcommittee (1996–8).[126] Developed between 1993 and 1996, the CanMEDS competency framework was initially to structure specialist physician training in Canada but is now embedded throughout medical training and used in over sixteen countries.[127] In 1997, during Brownell's term as associate dean for graduate clinical education, review teams from the RCPSC and the College of Family Physicians of Canada examined the twenty-eight residency programs offered by the U of C faculty. Notwithstanding the decline in government funding and changes in infrastructure described earlier in this chapter, the review teams left impressed with the overall quality of residency training offered in Calgary.[128]

In April of 1994, the College of Physicians and Surgeons of Alberta announced plans for a re-evaluation system for practicing physicians.[129] A year later the Physician Performance Advisory Committee was established to determine the process that would be used to evaluate physician performance. This led to the Physician Achievement Review (PAR) program, which was implemented in 1999. Much of development and piloting work for this project was done at the U of C.[130] In 2004, the PAR Instrument Development and Assessment Team won the MCC's Outstanding Achievement Award in the Evaluation of Clinical Competence.

International medical education initiatives have a long history at the U of C, with formal involvement in Nepal dating back to 1980.[131] Subsequent agreements were developed with schools in China, Japan, Korea, Thailand, and the Philippines.[132] In addition to offering training opportunities in Alberta, faculty from Calgary would spend time in these countries to assist in the training of professionals equipped to deal with the healthcare needs of local populations.[133] In January of 1994, Clarence Guenter was appointed director of the faculty's International Medical Exchange Program.[134] In this capacity, he initiated collaborations with the National University of Laos and the Ateneo de Zamboanga University School of Medicine in the Philippines.[135] International medical education was, moreover, a two-way street, with many Calgary students and postgraduate trainees benefiting from electives in other countries that enriched their education.

Other educational accomplishments from these years would include the launch of the Health Knowledge Network (an early electronic database providing widespread access to the medical literature jointly offered by the U of C and U of A with funding from the AHFMR), and the official opening of the Medical Skills Centre.[136] In early 1996, the FC approved a BA and BSc program in health and society.[137] This evolved into the Bachelor of Health Sciences program (described in subsequent chapters).

Research Accomplishments

From its founding the faculty emphasized multi- and interdisciplinary research activities.[138] Rather than departments, research groups with common research interests were assigned designated office

and laboratory space. It was hoped that organizing research on this basis would foster interactions between researchers of diverse backgrounds and stimulate a diversification of approaches to various research problems. As Dr. Grant Gall explained, "Research here blends different types of scientists in common areas of interest. The intent is to bring together people with similar interests but largely different backgrounds."[139] Dr. Sam Weiss viewed this as a "refreshing" feature distinguishing Calgary's medical school from other department-based faculties. Though most of the active members of research groups were basic scientists, Dr. Weiss emphasized the importance of a structure that facilitated collaborative interactions between basic and clinical researchers as the most promising way of speeding up advancements in the development of therapeutics.[140] This approach was recognized as a unique feature of the U of C faculty, one that anticipated later national interest in the promotion of interdisciplinary health research.[141] During the Smith deanship eighteen research groups were active, as shown in table 3.[142]

Table 3: University of Calgary research groups, 1992–7

Behavioural Sciences
Cardiovascular
Cell Regulation (disbanded in November of 1996)
Endocrine
Gastrointestinal
Health Care
Immunological Sciences (name changed to Immunology in September 1994)
Infectious Diseases
Joint Injury and Arthritis
Julia McFarlane Diabetes Research Centre
Medical Education
Medical Genetics
Molecular and Developmental Biology
Neuroscience
Oncology (name changed to Cancer Biology in March 1993)
Reproductive Medicine (disbanded February 1994)
Respiratory
Smooth Muscle (approved March 1993)

The McCaig Centre for Joint Injury and Arthritis Research (now called the McCaig Institute for Bone and Joint Health) represented an evolution of this organizational structure, one that foreshadowed the faculty-based institutes created during Dean Gall's tenure (1997–2007). Its origins date back to the late 1970s, when orthopedic resident Dr. Cy Frank and engineer Dr. Nigel Shrive began working together on a research project. They pulled in others, such as Dr. David Hart, as their interests evolved. This band of researchers grew and coalesced over time. They first became the Musculoskeletal (MSK) and then the Joint Injury and Arthritis Research Group. A vision for an expanded integrated multidisciplinary research program focusing on MSK conditions developed. At this point Bud McCaig became involved. Under his leadership and that of Richard Haskayne a successful fundraising campaign called Project Motion raised the necessary funds. The centre opened in the spring of 1992.[143] Its goal was to become a multidisciplinary, city- and region-wide hub that linked researchers and clinicians involved in all aspects of human movement. Additional funding for the centre was raised through the Partners in Health campaign.[144]

A paper authored by Brent Reynolds, then a PhD student, and Sam Weiss, published in early 1992, became the most-cited paper originating from the U of C of this era (see table 4 below).[145] It described the successful isolation of stem cells in the adult mammalian central nervous system, suggested that neural development continues throughout the lifetime of adult mammals, and raised the possibly that these stem cells could be used to repair neural damage. Reynolds and Weiss co-founded a company based on this discovery.[146] Work is continuing to translate stem-cell technology to effective clinical treatments.[147]

Dr. Sam Weiss has a long association with the U of C. He first came as a student and received his PhD in neurobiology from the institution. Between 1983 and 1988, he held two postdoctoral fellowships at the Centre de Pharmacologie-Endocologie in Montpellier, France, and at the University of Vermont College of Medicine; these were funded by the AHFMR and the MRC. During this time, he and Fritz Sladeczek of the French Institute of Health and Medical Research discovered the metabotropic glutamate receptor. Dr. Weiss returned to the U of C as a faculty member in 1988, where he continued his work as a researcher. He made several other important contributions to the school, including as the inaugural director of the Hotchkiss Brain Institute. In 2008, Dr. Weiss was awarded the Gairdner Foundation International Award, which is given annually for outstanding discoveries or contributions to medical science. In 2017 he was appointed as the scientific director of the Canadian Institutes of Health Research (CIHR) Institute of Neurosciences, Mental Health, and Addiction. CIHR is the major federal agency responsible for funding health and medical research in Canada and is the successor of the Medical Research Council of Canada.

Important clinical and health service research activities were also launched during the Smith deanship. In 1995 a group led by Dr. Merril

Table 4: 15 most-cited papers (300+ citations) published between 1992 and 1997 with lead and/or senior author member of the U of C Faculty of Medicine

(Source: Google Scholar, 21 October 2018)

1. Reynolds, B. A., S. Weiss. "Generation of Neurons and Astrocytes from Isolated Cells of the Adults Mammalian Central Nervous System." *Science* 255 (1992): 1707–10. (6,348 citations)
2. Reynolds, B. A., W. Tetzlaff, and S. Weiss. "A Multipotent EGF-Responsive Striatal Embryonic Progenitor Cell Produces Neurons and Astrocytes." *J Neurosci* 12 (1992): 4565–74. (1,762 citations)
3. Hendzel, M. J., et al. "Mitosis-Specific Phosphorylation of Histone H3 Initiates Primarily within Pericentromeric Heterochromatin during G2 and Spreads in an Ordered Fashion Coincident with Mitotic Chromosome Condensation." *Chromosoma* 106 (1997): 348–60. (1,650 citations)
4. Weiss S., et al.: "Multipotent CNS Stem Cells Are Present in the Adult Mammalian Spinal Cord and Ventricular Neuraxis." *J Neurosci* 16 (1996): 7599–609. (1,377 citations)
5. Hull, R. D., et al. "Subcutaneous Low-Molecular-Weight Heparin Compared with Continuous Intravenous Heparin in the Treatment of Proximal-Vein Thrombosis. *N Engl J Med* 326 (1992): 975–82. (935 citations)
6. Wallace, J. L. "Nonsteroidal Anti-inflammatory Drugs and Gastroenteropathy: The Second Hundred Years." *Gastroenterology* 112 (1997): 1000–16. (715 citations)
7. Weiss S., et al. "Is there a Neural Stem Cell in the Mammalian Forebrain? *Trends Neurosci* 19 (1996): 387–93. (684 citations)
8. Paterson, A. H., et al. "Double-Blind Controlled Trial of Oral Clodronate in Patients with Bone Metastases from Breast Cancer." *J Clin Oncol* 11 (1993): 59–65. (653 citations)
9. Hull, R., et al. "A Comparison of Subcutaneous Low-Molecular-Weight Heparin with Warfarin Sodium for Prophylaxis against Deep-Vein Thrombosis after Hip or Knee Implantation." *N Engl J Med* 329 (1993): 1370–76. (562 citations)
10. Leco, K. J., et al. "Tissue Inhibitor of Metalloproteinases-3 (TIMP-3) is an Extracellular Matrix-Associated Protein with a Distinctive Pattern of Expression in Mouse Cells and Tissues." *J Biol Chem* 269 (1994): 9352–60. (557 citations)
11. Hii, J. T., et al. "Precordial QT Interval Dispersion as a Marker of Torsade de Pointes. Disparate Effects of Class Ia Antiarrhythmic Drugs and Amiodarone." *Circulation* 86 (1992): 1376–82. (523 citations)
12. Flemons, W. W., W. A. Whitelaw, R. Brant, and J. E. Remmers. "Likelihood Ratios for a Sleep Apnea Clinical Prediction Rule." *Am J Respir Crit Care Med* 150 (1994): 1279–85. (489 citations)
13. Gaboury, J., et al. "Nitric Oxide Prevents Leucocyte Adherence: Role of Superoxide." *Am J Physiol Heart Circ Physiol* 265 (1993): H862–7. (484 citations)
14. Ebly, E. M., D. B. Hogan, and I. M. Parhad. "Cognitive Impairment in the Nondemented Elderly. Results from the Canadian Study of Health and Aging." *Arch Neurol* 52 (1995): 612–9. (409 citations)
15. Hull, R. D., et al. "A Noninvasive Strategy for the Treatment of Patients with Suspected Pulmonary Embolism." *Arch Intern Med* 154 (1994): 289–97. (393 citations)

Knudtson established the Alberta Provincial Project for Outcomes Assessments in Coronary Heart Disease (APPROACH), which aimed to track the long-term outcomes of patients undergoing cardiac catheterization in Alberta.[148] Since its inception, the project has expanded geographically and has been used for a variety of purposes. In 2010, it was recognized with a CIHR/*Canadian Medical Association Journal* Top Canadian Achievement in Health Research Award.[149]

Alastair Buchan was appointed Heart and Stroke Foundation Professor in Stroke Research in late 1995. Concurrently a stroke unit was established at the Foothills Hospital.[150] During his ten years in Calgary Buchan established a comprehensive regional stroke service and active research program. For his contributions to the field, the U of C awarded him an honorary degree in May 2009. Under Buchan's guidance the Calgary Stroke Program has evolved into a world-class training site, a hub for dynamic multidisciplinary research, and a fully integrated clinical centre that provides exemplary clinical care. The program won a 2011 CIHR/*Canadian Medical Association Journal* Top Canadian Achievement in Health Research Award.[151]

Other nationally recognized research programs at the U of C during the 1990s includes the work of Garnette Sutherland (who joined the U of C faculty in 1993) in neurosurgery; Marvin Fritzler's development of biomarkers and diagnostic assays for autoimmune disease; and Russell Hull's work on therapies for venous thrombosis.[152]

From 1992 to 1997, the faculty provided graduate science training to hundreds of master's and doctoral students as well as postdoctoral trainees (an exhaustive list of the latter group for this time period is not available). There was a brisk growth in the number of master's students over these years, but little change in the number of doctoral candidates (see table 2)—possibly related to the dramatic contraction in the AHFMR's support for students, fellows, and new investigators during the early 1990s.[153] A reflection of the challenging environment facing graduate science students at that time was seen in the results of a 1991–2 study of stress among medical students, residents, and graduate science trainees done at the U of C. The highest levels were found among graduate science students.[154]

Clinician scientists are key contributors to medical research. To support their training and create physician leaders for the twenty-first century, the faculty launched the Leaders in Medicine program in 1993–4, with the first trainee admitted in 1996.[155] The program initially was quite small, but since 2000 enrolment has grown substantially, to approximately sixty active joint-degree students (e.g., MD/MSc, MD/PhD, MD/MBA) and the same number of active affiliate members (affiliation is open to all medical students; affiliates are invited to attend Leaders in Medicine activities).[156]

The U of C faculty's research expenditures increased by 22 per cent (15 per cent if corrected for inflation) between 1992 and 1997 (see table 2). Its ninth-place rank among Canadian medical schools for research expenditures did not change during these years.

Recognizing Collective and Individual Accomplishments

The faculty celebrated its twenty-fifth anniversary in October 1995. Since 1970 it had produced more than 1,450 MD graduates, and in 1994 the U of C scored in the top five Canadian medical schools on the MCC examinations. Graduates reported high levels of satisfaction with the training they received.[157] The November 1995 issue of *The Bulletin* noted a number of anniversary events, including the inaugural Watanabe Lectureship given by Dr. Arnold S. Relman (editor-in-chief emeritus of the *New England Journal of Medicine*).[158] At the time the faculty had six funded lectureships recognizing current or former faculty members (namely, Church, Drummond, Fowlow, Kovitz, Parhad, and Watanabe).

On 19 October 1994 Dr. T. Douglas Kinsella (1932–2004) was named a member of the Order of Canada for his work in medical bioethics; he was formally invested on 3 May 1995.[159] Dr. Kinsella had joined the U of C faculty in 1975 and helped establish the Division of Rheumatology. He was the assistant dean (medical bioethics) from 1984 to 1992, director of the Office of Medical Bioethics (1993–8), and he played an important role in the founding of the Conjoint Health Research Ethics Board. With faculty colleagues, he developed models for training in clinical ethics.[160] Dr. Kinsella was a founding member and the first president of the National Council on Bioethics in Human Research (now known as the National Council on Ethics in Human Research) and served as a member of the Tri-Council Working Group on Ethics that produced the Code of Ethical Conduct for Research Involving Humans (1997). A particularly contentious issue during the 1990s was the right to die with dignity. In a well-publicized case from September 1993, the Supreme Court of Canada turned down the request of Sue Rodriguez, a woman suffering from amyotrophic lateral sclerosis, to overturn the Criminal Code of Canada's prohibition against assisted suicide (Rodriquez took her own life with the assistance of an anonymous physician on 12 February 1994). With Dr. Marja J. Verhoef, also of the U of C faculty, Dr. Kinsella co-authored a series of important papers analyzing the opinions of Alberta physicians on assisted suicide and euthanasia.[161]

Several chairs and professorships were established between 1992 and 1997. In November of 1994, Dr. John Wallace was named as first holder of the Crohn's and Colitis Foundation of Canada Chair for Intestinal Disease Research.[162] Merck Frosst donated funds for the Merck Frosst Professorship in Cardiovascular Research, to which Dr. Henk E. D. J. ter Keurs was appointed.[163] Contributions from Associated Medical Services (then known as the Jason A. Hannah Foundation) and the Alberta Medical Foundation (AMF) permitted the creation of the AMF/Hannah Endowment Fund for Medical History in 1995. The long-term goal was a funded faculty position in the history of medicine, which was realized with Dr. Peter Cruse's appointment as the Alberta Medical Foundation/Associated Medical Services Affiliate Professor in the History of Medicine.[164]

In 1997 a dedication ceremony was held for the renovated Libin Theatre (formerly the Orange Theatre).[165] The theatre was named in honour of Alvin and the late Mona Libin (1930–2006) for their long-standing support of the school and commitment to the community. In 2003 their foundation donated $15 million toward the establishment of the Libin Cardiovascular Institute of Alberta.

Four striking bronze sculptures of a rock hound, roughneck, switcher, and jug hustler flank the main entrance to the Libin Theatre. They date from the late 1970s, when Roy H. Allen, of Challenger International Services, and others commissioned noted Western sculptor John Weaver to produce a limited series of sculptures dealing with the oil industry. Revenue from this series, along with matching funds from the provincial government, established the U of C medical faculty's Roy Allen Sight Research Fund, which supported the development of ophthalmology in Southern Alberta. In 1983, Roy and his wife donated the bronzes to the University of Calgary Foundation, which in turn placed them in the Faculty of Medicine to commemorate the Allen family's generous support of eye research.[166]

Dean Smith Resigns

In June of 1996 Dean Smith gave a year's notice of his intention to resign the deanship. While he enjoyed the position, Smith wasn't sure his health could stand the pace required for the job. He also noted that his timing "hasn't been good," as his tenure as dean had coincided with a period of downsizing. Dean Smith said that his resignation was not in protest of the recent health-care cuts, but he did make it clear that he felt the "cuts did come too fast," that health-care workers were "not given enough say," and the faculty wasn't as strong as when he first took over. The combined health and education cuts over Dean Smith's tenure had reduced the faculty's budget by between 25 and 30 per cent leading to slowed growth in academic positions and the loss of support staff; nonetheless, Dean Smith felt that a corner had been turned and that the worst was now over.[167] Being dean of a medical school—especially of this particular school, at this particular time—meets any reasonable criteria for what has been termed an "extreme job."[168] Dealing with a loss of funding is particularly stressful for anyone holding a deanship.[169]

Ralph Klein was re-elected premier in March of 1997. The Progressive Conservative Party won over half the popular vote and 63 of the 83 seats in the legislature for its eighth consecutive term. During the campaign, Premier Klein was given credit for keeping his promise to attack the provincial deficit.[170] In his first term, the size of government and scope of provincial services were drastically cut. Health-care spending dropped from $4.3 billion in 1992–3 to $3.77 billion in 1995–6. The impact this had on the health workforce is shown above in table 1. The 20.5 per cent decline in the health workforce was not evenly spread across occupations or, as has been noted previously, within professions. In the late 1980s, Alberta had the second-highest ratio of staffed hospital beds to population in Canada; by 1994–5 it had the lowest.[171]

The changes seen in Calgary mirrored those experienced throughout the province, with the closure of three of the city's seven hospitals and cuts in staff, including a 49 per cent cut in administrative staff, which compounded the challenges of implementing reform within the health-care system.[172] A 1994 *Maclean's* article on the impact of health-care cuts across Canada gives a sense of how this felt for health-care providers in Calgary during this period. The article focused on the Foothills Hospital, which was protected from the full effects of the cuts, as it remained open at full capacity. Rae Corelli, the author, spent four days at the facility talking to administrators, physicians, and staff. Calling it the "most difficult period in this hospital's history," Dr. Bryan, the chief executive officer of the CRHA, talked about the "terrible depression among people in the healthcare industry." The family physician William Hall likewise felt that things were "getting pretty close to the bone. . . . People are starting to wear down because there are fewer of them doing the same amount of work." Seniority-based bumping had led to 300 of the facility's 1,500 full- and part-time nurses changing their jobs over the previous six months.[173]

The Alberta government's decision to keep taxes low and pay down the provincial debt (which was fully paid off in 2005) meant that much-needed spending on health care was delayed, which led to a subsequent effort to catch up. By 2004, the health-care budget had more than doubled, to $8 billion.[174] The spending cuts of the mid-1990s had surprisingly little long-term impact on the cost of health care in Alberta. While Premier Klein and his government talked about de-insuring some medical treatments and having people wait longer for minor ones, they were hesitant to act on their own.[175] They pressured the federal government, which never responded, to produce a list of core services considered essential under the Canada Health Act.[176] Hints were also made about penalizing people for unhealthy lifestyles. In September of 1996, for example, Premier Klein received national coverage when he was quoted as saying that 70 per cent of people who use the health-care system are there "because of something they have done to themselves."[177] Dean Smith, in a faculty newsletter that year, tried to make the point that while there were many good reasons to emphasize health promotion and disease prevention, it was not a given that this would lead to lower health-care costs.[178] Unfortunately, this message was misinterpreted. Some thought the dean doubted the value of prevention, and that it would be better to wait "for people to fall sick [before] treating their illness."[179] This engendered several indignant letters in the pages of the *Calgary Herald*.[180]

In his last "From the Dean" column Dean Smith reflected on his tumultuous tour of duty, writing that, "I have frequently commented that being Dean of Medicine at the University of Calgary is the best job in the world; however, my timing could have been better."[181] He noted the need to downsize and adapt in response to a major decrease in funding. It was necessary, he said, to fight to maintain a core of excellence. New sources of revenue had to be identified, which had led to expending time and energy on the Partners

in Health campaign and community relations in general. On 1 July 1997, pediatrician Grant Gall (1940–2009) took over as dean.

A measure of the trying times the faculty faced is given by the changes in the U of C's standing in *Maclean's* annual rankings of Canadian universities, though it must be noted that these figures refer to the entire university, not the U of C Faculty of Medicine alone. In 1993 the U of C ranked fifth in the medical/doctoral category, but by the next year it had dropped to double digits. Between 1994 and 1997, the university's rankings ranged between ten and thirteen. In 1994, *Maclean's* education editor was quoted as saying that the U of C's "reputation slipped due to declining operational dollars spent per student and fewer funds spent on bursaries and scholarships."[182] As Don Braid, a columnist for the *Herald*, wrote in 1995, "Make no mistake: U of C, once a fine, striving university with grand dreams, is now deeply demoralized and sliding into government-induced decay. . . . The rock-bottom rating is close to the truth."[183]

When asked twenty years later what accomplishments he was particularly proud of, Dean Smith first noted that academic recruitment continued during his tenure, albeit at a slower rate. Examples of individuals enticed to come to the U of C during his years as dean included Drs. Buchan, Sutherland, and Jonathan Lytton.[184] This was possible primarily because of the assistance of the AHFMR. As fewer individuals were being recruited, funds for infrastructure support could be obtained from the AHFMR for those already "in place," which helped address an operational deficit in this area that had built up over the years.

Dean Smith was also proud of the ability of the leadership team in the Dean's Office to maintain the institution and retain productive faculty members. Worrying about losing high-profile, productive members kept him awake at night, as there was a danger that losses might snowball if they were allowed to reach a critical threshold. While some individuals were lost, attrition was kept to a minimum. This occurred because of a variety of factors, including the noted support of the AHFMR, the Partners in Health campaign, and other donations (for example, those that allowed the Health Sciences Library to renew periodical subscriptions needed by faculty and students for their work).

A third source of pride was that, notwithstanding the serious challenges it faced, the faculty continued to expand its activities and launch (or participate in) new projects and initiatives. Dean Smith specifically mentioned the Seaman Family Magnetic Resonance Research Centre. Other examples would include the Rural Physician Action Plan, the Physician Achievement Review, the Leaders in Medicine program, and the attention paid to women's issues. Dean Smith also noted the advances made in medical education and highlighted the development of the clinical presentation curriculum and the expansion of the faculty's international partnerships and global activities.[185] The successful accreditation of both the undergraduate medical and graduate clinical education programs during these challenging times was an impressive accomplishment as well.

The cuts undertaken during Dean Smith's tenure did prevent the school from fully achieving its dream of growth and diversification. Regionalization was another difficult challenge, one that placed some specialty fields in jeopardy and contributed, for example, to the departure of several neurosurgeons. The close working relationships and formal agreements developed over the years with institutions like the Foothills and Calgary General Hospitals were lost. The creation of new regional medical bylaws was a difficult process, as initially the CRHA displayed little recognition of the need to support medical education and research.[186] For example, in a 1998 article summarizing the impact of health reform in Calgary, the importance of either medical education or research was not mentioned.[187] Of the hospital closures, Dean Smith viewed the loss of the Bow Valley Centre as particularly difficult because of its strong medical education programs. Retaining the Children's Hospital and subsequently moving it to the current site in 2006 was, Dean Smith later reported, the "smartest" available option.[188]

Dean Smith quickly realized that protecting people and programs, not the bricks-and-mortar buildings themselves, would be the priority of his deanship.[189] As he wrote in 1994, "we have held to the view that it is the health care programs which are important; the programs are delivered by people, not by buildings."[190] Though initially it seemed to many that just surviving was the best that one could hope for, with the benefit of hindsight it is apparent that the resiliency, adaptability, and creativity of the administration, academic faculty, and support staff of the U of C Faculty of Medicine meant that the institution was able to do much more than that.