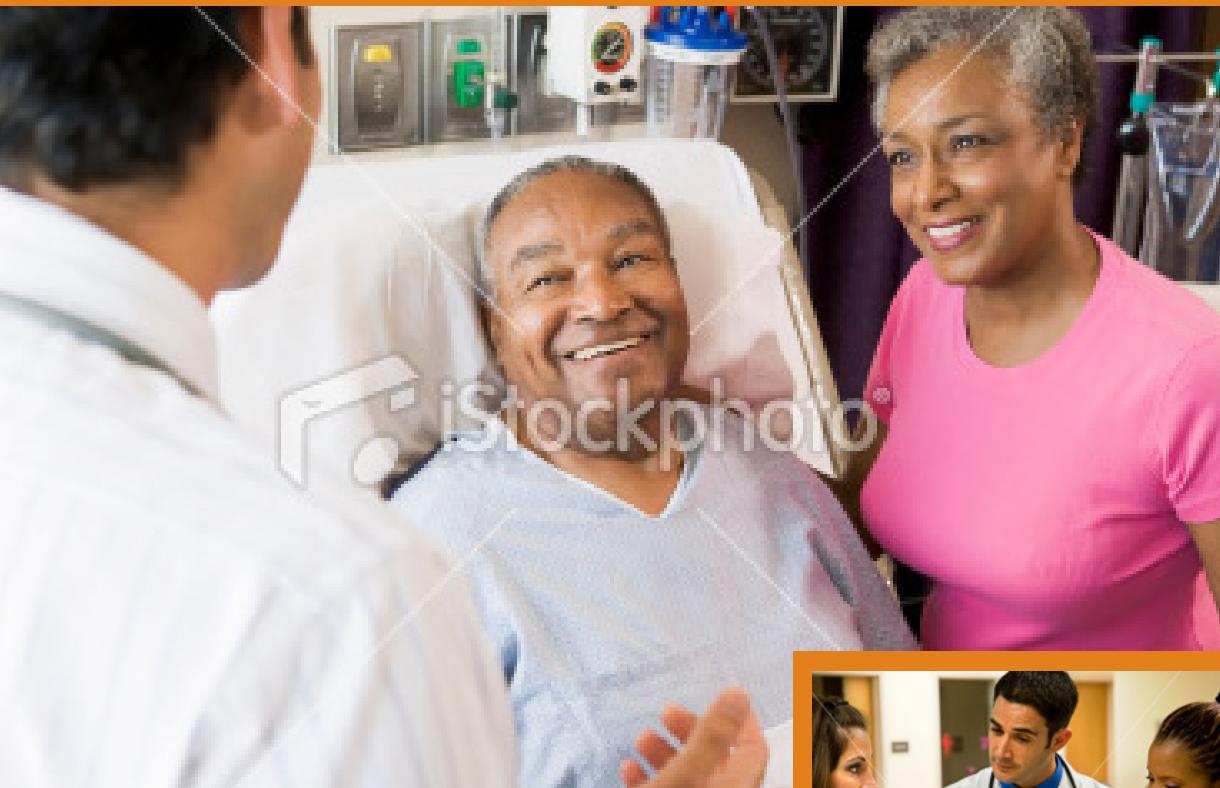


Academic CME in the US and Canada: The 2010 AAMC/SACME Harrison Survey



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Highlights

This is the third annual survey jointly sponsored by the Association of American Medical Colleges (AAMC) and the Society for Academic CME (SACME), in collaboration with the Association of Faculties of Medicine of Canada (AFMC). This survey included questions about the organization of the CME unit, its relationship to the larger organization in which it resides, the 'product' of the CME unit (courses and other activities and interventions), its funding base, research and innovation, and other items related to the operation of the CME unit. The survey is electronically distributed to all US and Canadian medical schools, teaching hospitals in the US, and clinical academic societies who are members of the AAMC's Council of Academic Societies (CAS). Its highlights include:

- Response rates in excess of 60%; US medical schools at 84% and Canadian schools at 65%. Lesser response rates from academic societies (40%) and teaching hospitals (58%)
- Among medical schools, over a three year period, a change in the mix of educational offerings and interventions:
 - Decreased numbers of live courses, regularly scheduled series (rounds) and asynchronous audio, video, and on-line learning activities accredited by US and Canadian medical schools
 - Modest expansion of alternative educational methods such as academic detailing and performance improvement activities
 - Significant progress in the use of activities/methods to enhance learning, notably meaningful interactivity in traditional didactic formats, simulations, objective planning data provided by quality measures
- Within academic medical centers,
 - continuing movement towards internal alignment, including an increased percentage of internal participants, including clinical faculty and other health professions
 - increasing relationships with graduate medical education, allied health units, and quality improvement activities

Challenges and missed opportunities in building relationships with other elements of the AMC, namely informatics, health services research, libraries, and faculty practice plans

- Among US and Canadian medical schools, a continuing and strong commitment to community engagement and outreach reflected in strong relationships, for example, with community hospitals or VA hospitals in the US, and in Canada with provincial licensing boards and in visiting speakers programs, live audio/video and webcasts and (in some instances) academic detailing activities
- Among all respondents, a change in the funding pattern of academic CME units: a clear movement away from commercial support for academic CME and one more supported by registration fees and institutional support
- A clear and impressive presence in scholarly activities and best practices among US and Canadian medical schools

Background

This is the third annual survey jointly sponsored by the Association of American Medical Colleges (AAMC) and the Society for Academic CME (SACME), in collaboration with the Association of Faculties of Medicine of Canada (AFMC). The survey was derived from previous surveys of academic CME providers conducted over the last two decades by SACME. Its name, "The Harrison Survey," recognizes the dedication and commitment of R. Van Harrison, Ph.D., of the University of Michigan, who led the Society's CME bi-annual survey efforts over this period.

This survey included questions about the organization of the CME unit, its relationship to the larger organization in which it resides, the 'product' of the CME unit (courses and other activities and interventions), its funding base, research and innovation, and other items related to the operation of the CME unit. The survey is electronically distributed to all US and Canadian medical schools, teaching hospitals in the US, and clinical academic societies who are members of the AAMC's Council of Academic Societies (CAS). In its first iterations, only North American medical schools were surveyed; this is the first year that a concerted effort was made to reach out to members of the CAS, and to the Council of Teaching Hospitals (COTH) and their active CME divisions. Only limited results from members of these two organizations are included in this report due to relatively low response rates and the lack of longitudinal data at this time.

This report summarizes for the most part, and unless otherwise specified, *data from the US and Canadian medical schools continuing education activities for 2009, reported here as the 2010 Harrison survey*. Wherever possible, comparative results from the 2008 and 2009 Harrison surveys are used to mark possible trends. In addition, the report includes specific results from teaching hospitals and academic societies, although their low response rate limits interpretation.

Survey Response Rate

The questionnaire was developed over a six month period in early 2007, based on the original SACME surveys. It was pilot-tested for technical and questionnaire format, for questions relevant to the changing role and nature of CME in AMCs, and as subsequently administered electronically on three yearly occasions, the most recent being the late summer to early fall of 2010. All financial and other reporting data were based on the last ACCME fiscal year (FY 2009).

One hundred and thirty US and 17 Canadian medical schools, and—in the US—77 academic societies and 129 teaching hospitals successfully received the questionnaire. Of these numbers, 109, 11, 31, and 75 respectively responded in full or partially to the survey, generating the response rates seen in Table 1.

Table 1: Response Rates by Category of CME Provider

US Medical Schools	109/130	84% response rate
Canadian Medical Schools	11/17	65%
CAS	31/77	40%
Teaching Hospitals	75/129	58%

While there was a high overall response rate to this survey, not all questions were answered, or answered completely by institutions. This report indicates the numbers of CME units reporting on each question, the mean figures where appropriate, and the percentages (in round numbers), or numbers of institutions for those CME units in each category. For most questions, the overall response rate is described and, in some instances (funding questions or research productivity), other parameters were considered important, for example US/Canadian descriptors. Since the Canadian/US currency exchange rate at the time of the completing of this survey was virtually equivalent, these dollar values are represented as equal. Finally, in some areas, the current survey data are compared with previous surveys to assess longitudinal trends. These comparisons may be limited by a possibly different population of respondent schools and a smaller response rate on earlier surveys.

The CME Unit: Its Director, Reporting Structures, and Integration; Background, Training, and Salary of the Director of CME

Educational Background of the Director

The survey assessed the educational background of the 'director' of CME, in most cases the individual who completed the survey and who has day-to-day, overall operational responsibility for CME activities. This role does not include responsibilities generally considered to be that of the associate or assistant dean for CME. A range of educational levels was represented in the responses. The majority (roughly a third in each CME provider category) hold master's degrees. Physicians who hold the title of Director of CME account for approximately a quarter of directors among academic societies and teaching hospitals, none have this title among Canadian schools. Directors with a PhD degree account for the majority of CME providers among Canadian respondents. See Table 2.

Table 2: Educational Background of the Director of CME

	U.S. Medical Schools	Canadian Medical Schools	U.S. Teaching Hospitals	Council of Academic Societies
None	2%	0%	6%	0%
Bachelor's	26%	8%	25%	0%
Master's	38%	39%	35%	38%
M.D.	12%	0%	25%	25%
Ph.D.	14%	54%	6%	25%
Other	8%	0%	2%	13%
	n=108	n=13	n=48	n=8

Salary of the Director

Overall, 95 units (57 from US medical schools, 3 from Canada, and the remainder from teaching hospitals and academic societies) responded to the question of the compensation (excluding benefits) for the director of CME. The mean salary for directors across all institutions was \$91,000 per year, slightly higher than this in US than Canadian schools. Among those who reported, the mean salary for academic societies at \$105,000 was higher than that of teaching hospitals at \$85,000. See Table 3.

Table 3: Salary of the Director

Statistics		
Total: all respondents—Salary of the Director		
N	Valid	95
	Missing	132
Mean		\$91,276.59
Percentiles	25	\$68,500.00
	50	\$85,000.00
	75	\$102,000.00

Name, Organizational Structure, and Relationships of the CME Unit

Where does CME 'fit' in the Organization? Reporting Structures of the CME Units

Reporting Structures in Medical Schools

Among medical school respondents, while the rough proportions of reporting structures has not altered compared to the 2008 survey, there is a slight increase in the percentage of those CME units which report to the dean (now 36% compared to 32%), or to a vice or senior associate dean (38% compared to 28%). Much smaller percentages of units report to both the dean of the medical school and the CEO/COO of a hospital (8%), or to the CEO/COO of the academic health center or the hospital directly (less than 1%)—unchanged over three years. Canadian schools differ slightly in that more CME units (45% vs. 38%) report to a vice or senior associate dean for education than directly to the dean.

Reporting Structures in Academic Societies and Teaching Hospitals

Academic Society-based CME units have a similar reporting structure to that of medical schools. Here, one third (36%) report to the president or CEO of the society, one fifth (21%) report to a vice president for education, and the remainder report in a variety of ways—to a committee, director of meetings, or other individuals and groups. In teaching hospitals, approximately one-half (49%) report to the VP Education, chief academic officer, or similar role; none report directly to the president or CEO of the organization. A further 9% report to the director of education, a further 9% to the chief medical officer or VP-Medical, and 4% conjointly to medical school leadership in education. 30% report to other committees, individuals, and structures.

Towards Internal Alignment: Relationships of the CME Unit within Academic Medical Centers

Most responding institutions indicate moderate or extensive interaction with continuing education units for other health professions; with faculty development units; and with resident education and compliance or conflict of interest initiatives.

Medical schools were provided a list of units, departments, or programs, both internal and external to the academic medical center, which might exist in their respective settings, then asked to select the status that best described the relationship between the CME office and each of those units, on a scale ranging from no interaction to minimal, moderate, or extensive interaction. Minimal interaction was described as irregular or occasional activity linked to the unit or program, whereas extensive interaction was characterized as ongoing planning or developmental activity, conjoint programming, shared goals and strategic directions, and/or shared resources.

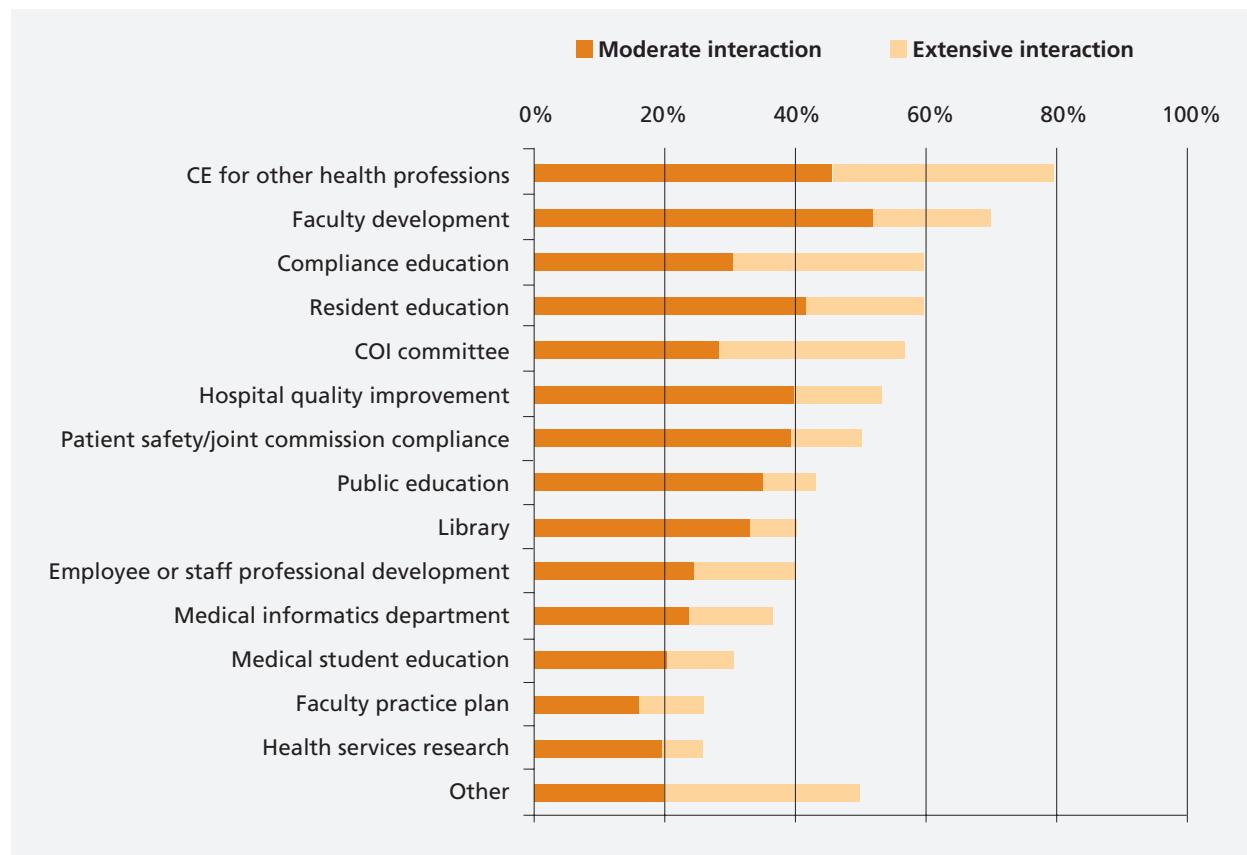
The internal relationships included: faculty development units, library services, conflict of interest committees, medical student or resident educational units, compliance education, physician performance or quality improvement units, faculty practice plans, continuing education units for other health professions, health services research, public health, employee or staff professional development, and public education (for example Mini Med School units). These internal relationships were identified by the survey writing group as important, given new CME accreditation requirements, the scrutiny created by the question of commercial support, regulatory issues, and indications that more effective CME units can add value to the academic institution in which these units reside.

Several findings are of interest among US and Canadian medical schools, when responses for 'extensive' and 'moderate' interaction were collapsed. Roughly 80% of the responding institutions indicate moderate or extensive interaction with continuing education units for other health professions; while over two thirds (70%) express a moderate or extensive interaction with faculty development units; and with resident education (64%) and compliance or conflict of interest education (60%). Conversely, several interactions are much less frequent or non-existent among reporting units. For example, roughly a third of schools report no interaction with faculty practice plans (34%), health services research (31%), public health units or public education units, or informatics and information resources.

Canadian and US schools differ slightly in two areas: Canadian schools' CME units interact more with public health and public education (50% vs. 30 %) and with health services research (in similar proportions), reflecting federal or provincial initiatives in these areas. No substantive between-year differences were noted in this preliminary review.

Several internal relationships appear less well developed among medical school CME units. Roughly a third of schools report no interaction with faculty practice plans, health services research units, public health units, public education units, or informatics and information resources.

Figure 1: CME Unit Relationships Internal to US and Canadian Medical Schools *



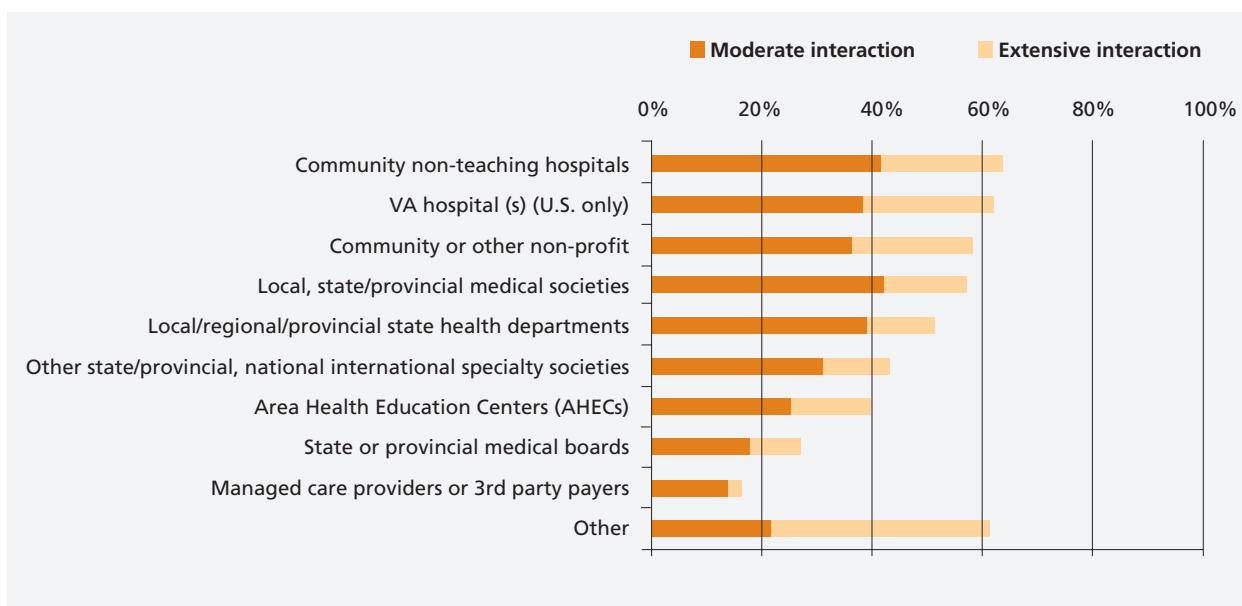
* The 'Other' category included: Social Accountability Planning Committee; Risk Management; Public Health Education; Physician Liaison Office; Partner AHEC; School of Dentistry, School of Nursing, and School of Allied Health; Mini Medical School; Credentialing; and Committee of Practicing Specialists.

Community Engagement: External Relationships of the CME Unit

The survey also studied relationships between the medical school CME unit and organizations external to the medical school. A list of community or state/provincial organizations was provided including local/county/state health departments, state or provincial medical boards, community hospitals, VA hospital(s), local and state or provincial medical and specialty societies, Area Health Education Centers (AHECs), managed care providers or third party payers, and community or state non-profit organizations.

Among these, US-based CME units indicate most interaction with community hospitals or VA hospitals. A relatively smaller but important percentage report interaction with medical societies (over half), community or state non-profits, local/county/state health departments, and state specialty societies. Also of significance, roughly two-thirds of units report no or minimal interaction with AHECs or state medical boards, while over half indicate similarly low levels of interaction with local, state, or regional health units. Finally, in areas where little or no interactivity is indicated, nearly half reported no interaction with managed care providers or third party payers and a further third have minimal interaction. Little between-year differences are noted from previous surveys. Canadian data are similar with the exception of VA, AHEC, and other entities which do not exist in the Canadian context.

Figure 2: CME Unit Relationships with Organizations External to US and Canadian Medical Schools **



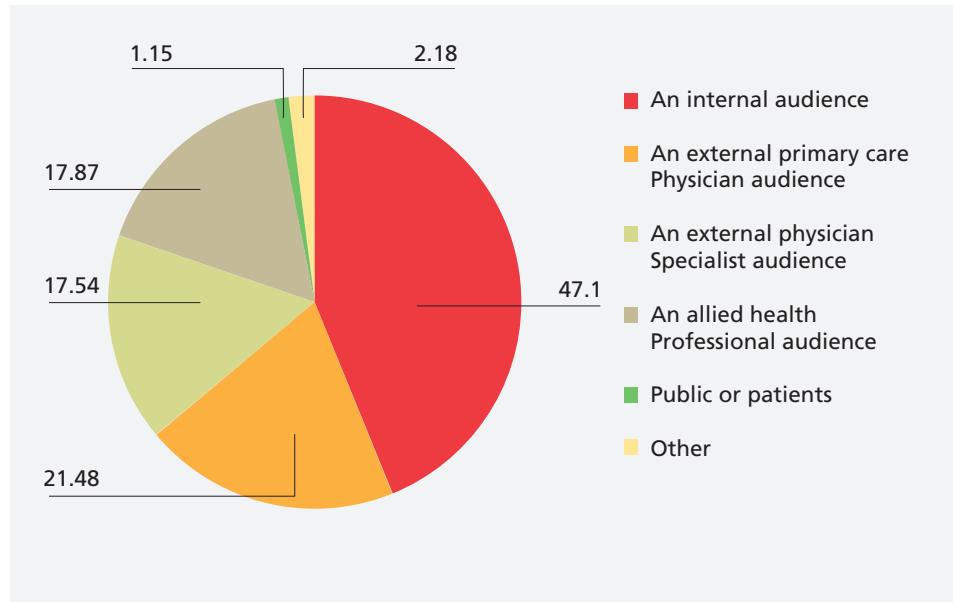
** The Other category included: Quality Improvement Organization for the State; Physician Licensing Body, Health Authorities, and Physician Organizations; Physician Insurance; Pharmaceutical; Other Medical Schools; Other Accredited Providers in State; For-profit Education Companies; Fellow CME Providers; Community Hospital GME Consortium; and Affiliated Teaching Hospitals (extensive interaction).

The Target of Academic CME: Internal vs. External Audiences

To further consider the question of internal and external relationships, the survey also asked CME units to estimate the percentage of their activity that targeted the various 'audiences' for educational activities—internal versus external, and primary care, specialist, or inter-professional audiences. Some notable between-survey observations may be made. On average, for all medical school CME units, nearly half report reaching an internal audience (up from 39% compared to previous surveys); 21% report an external primary care physician audience (down from 24% in previous surveys); and 18% (previously 18%) an external physician specialist audience. The number representing an inter-professional audience has shrunk somewhat to 18% in 2010 from 24% in 2008. Few centers target the public or patients.

While maintaining external relationships with community and VA hospitals and state or provincial medical societies, the survey notes a shift in the 'target audience' of CME activities towards an internal audience (now approximately one half of all participants)—especially among US schools.

Figure 3: The Targets of Continuing Education



Conferences and Courses

The term 'Traditional Educational Activities' represents those commonplace forms of CME as defined in previous SACME surveys—i.e., live courses, conferences, and refresher units, and similar educational events held in 2009 (identical to the ACCME fiscal year), the total number of credits hours offered in those units, and the number of physician and non-physician participants. Ninety-five medical school CME units responded to questions about these activities. While there was a wide range of responses to the number of courses developed (from 1 to over 1,300), on average, CME units produced over 130 courses on a yearly basis. In providing this wide-ranging service, the 'average' CME unit provided approximately 1,363 credits and attracted an attendance of 7,500 physicians and nearly 4,000 non-physicians. See Table 4.

Over a three year period, the survey reports a substantial drop in the average reported number of accredited, standard conferences, courses; regularly scheduled series (rounds); and asynchronous audio, video, and on-line learning activities provided by medical schools in the US and Canada.

These numbers have dropped in a three year period. In 2008, the average medical school produced 147 courses/year, for over 3,000 credits, attracting over 9,000 physician and 4,600 non-physician participants.

Table 4: Traditional CME Activities: Number of Planned Courses, Conferences, and Refresher Units; Credits and Participants in US and Canadian Medical Schools

		Total number of courses held in the last year	Total number of credit hours offered in these courses	Number of physician participants	Number of non-physician participants
N	Valid	95	94	94	94
	Missing	25	26	26	26
Mean		131.81	1,363.06	7,494.02	3,889.68
Percentiles	25	37	410	1308	1101
	50	80	797	3100	2447
	75	140	1460	9032	5419

Regularly Scheduled Conferences, Series, or Rounds (RSS)

CME units provide credit for regularly scheduled conferences, series, or rounds. In this survey, 91 units from the US and Canadian medical schools reported accrediting an average of 58 regularly scheduled series, providing nearly 1,600 credits, and attracting an average of nearly 13,000 physician attendances. This represents a decrease in the accreditation of RSS; in 2008, CME units in medical schools accredited an average of 83 such units, offering 2,274 credits offered in those series. See Table 5.

Table 5: Regularly Scheduled Conferences, Series, and Rounds (RSS); Credits and Participants in US and Canadian Medical Schools

		Total number offered of series in the last year	Total number of credit hours offered in these activities	Number of physician participants	Number of non-physician participants
N	Valid	91	87	80	81
	Missing	29	33	40	39
Mean		58.34	1582.86	12791.19	5501.49
Sum		5309	137709	1023295	445621
Percentiles	25	26	417	1778	915
	50	49	1162	9017	3982
	75	80	2171	18490	7498

Asynchronous Audio, Video, Web-based, Online Courses

Participants were asked to provide the numbers of asynchronous audio, video, and online courses. Last year, 93 units reported their activity in this area, generating an average of 52 courses, offering over 230 credits and attracting 4,000 documented physician users. This is in contrast to 2008 in which 77 CME units provided, on average, 170 video, audio, or asynchronous courses, for a total of 266 credits and attracting approximately 6,895 physicians and 3,794 non-physicians. In both reporting periods, there was a wide variety of responses to this question: some schools do not offer such courses, while one reported over a thousand such offerings.

CME units in medical schools in the US and Canada continue to offer a wide range of educational activities beyond short courses and RSS offerings. These include visiting speaker, academic detailing, train-the-trainer (opinion leader), traineeships and live broadcast units. There is slow but steady growth in the production of enduring materials and in performance improvement CME.

Table 6: Asynchronous Audio, Video, Web-based, Online Courses; Credits and Participants in US and Canadian Medical Schools

		Total number of courses held in the last year	Total number of credit hours offered in these courses	Number of physician participants	Number of non-physician participants
N	Valid	93	91	92	91
	Missing	27	29	28	29
Mean		52.22	233.77	4019.2	2315.82
Sum		4856	21273	369766	210740
Percentiles	25	1	6	6	0
	50	8	45	156	60
	75	34	147	1385	518

Community Outreach and Engagement: Visiting Speaker, Academic Detailing, Opinion Leader, Traineeship, and Live A-V/Web-based Activities

CME units also offer visiting speaker units, presentations at state medical societies, area hospitals, and activities in other venues. In addition, committed to reaching a local region or community, they also produce academic detailing and train-the-trainer programs, and traineeships, allowing physicians an opportunity to upgrade their skills. The broader CME literature, derived from health services research and related fields, suggest that these more inter- and pro-active educational interventions—in addition to audit and feedback activities, reminders and other point of care activities—are more effective means of translating knowledge into practice.

Medical schools in the US and Canada offered a comparatively small number, but wide variety, of such programs which extend their reach into the community. Most popular among these are visiting clinicians programs (51 units offered such programs), live audio/video activities (42 units), followed by train-the-trainer or opinion leader and individualized traineeships. A small number of schools provided academic detailing. While small and variable, these numbers too reflect a drop over a three year period.

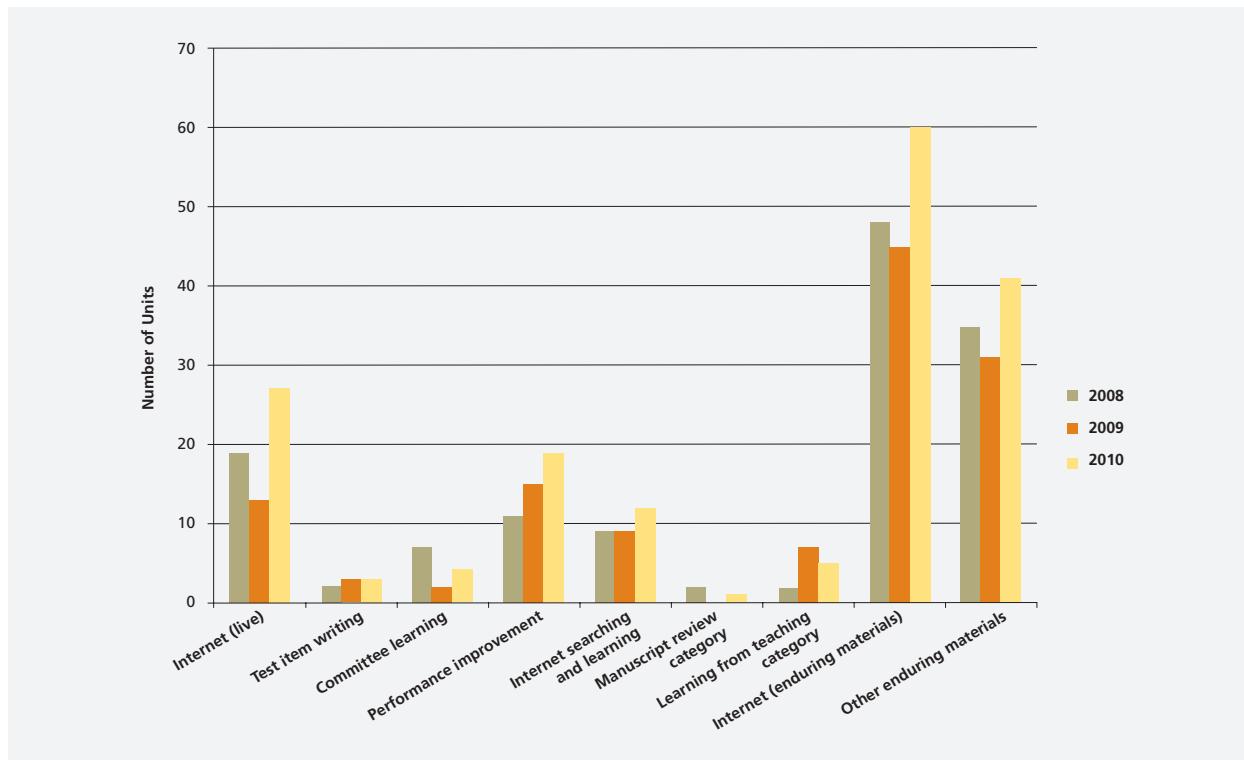
Table 7: Community Outreach Activities provided by US and Canadian Medical Schools

Outreach Activities	Number of units offering	Number of units not providing	Total Number of participants
Visiting Speakers	51	45	24,155
Academic Detailing	6	86	785
Opinion Leader/ train-the-trainer	28	64	3,242
Individual traineeships or tutorials	25	70	448
Live video/audio CME broadcasts	42	52	16,619

Alternative Learning Activities for CME Credit

The survey inquired about activities that are included in ACCME-collected data such as test item writing, committee or small group learning, performance improvement, manuscript review, and others, specifically designated as eligible for CME credit by the AMA. Trends over a three year period are documented in Figure 4, and demonstrated—albeit in relatively small numbers—steady growth in performance improvement activities and in the production of enduring materials in both web-based and more traditional formats.

Figure 4: Alternative ACCME-Identified Learning Activities/Alternative Educational Interventions in US and Canadian Medical Schools; Three Year Comparison



Alternative Educational Interventions

Towards a More Effective Product: Enhancing Didactic Activities

The CME research literature indicates CME course impact may be enhanced by the use of two sorts of additions: 'practice enablers' (patient education materials, flow-sheets, algorithms, and other materials to be used in clinical care distributed at or after the course); and/or follow-up methods post-course (e.g., by email, mailings, conference calls, etc.) to reinforce learning. Examples and definitions of these additional measures were provided to survey respondents in an attempt to be as specific as possible in these categories, using standard (often ACCME) definitions where possible.

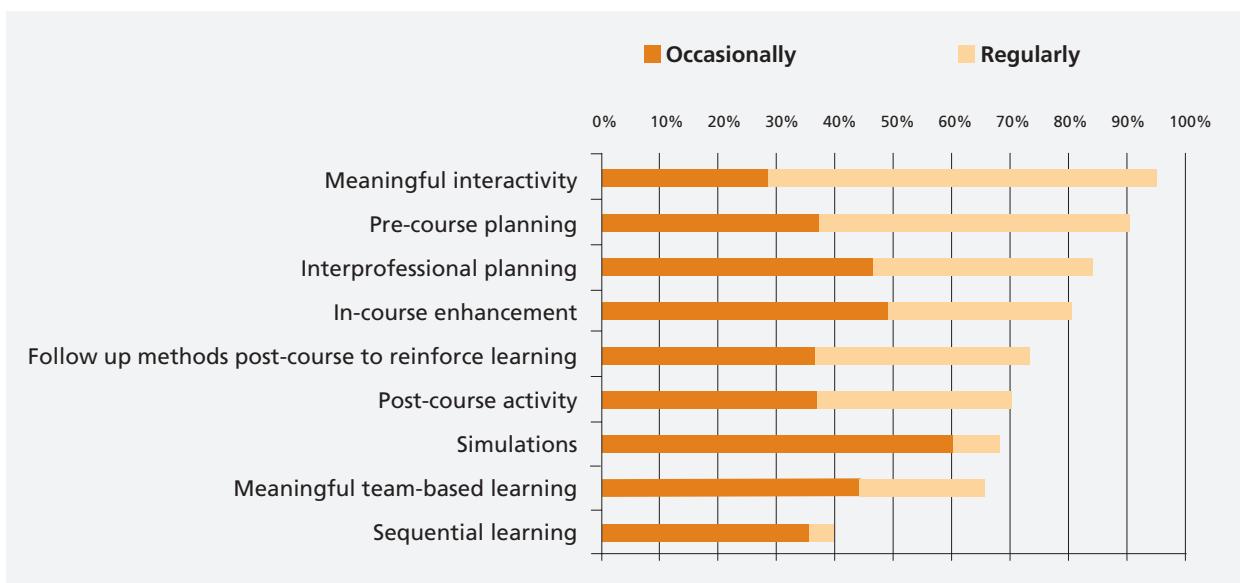
CME units in medical schools report a sizable increase in the use of evidence-based methods to enhance the effect of educational interventions: flow charts, patient education materials, simulations, interactivity, and post course methods.

Response rates in 2008 reflected a slow uptake of these methods; two years ago only 13 units (15%) reported that they regularly used flow charts or patient education materials in the context of usual courses, whereas 40 units (46%) used them occasionally. Similar proportions (15%) reported using post-course methods regularly, while 39 units (45%) use them occasionally.

Further in 2008, less than 5% of CME units indicated that they employed simulations (standardized patients, audio, video resources, actual simulators, etc.) on a regular basis. Quality or performance improvement data sources were used as needs assessment regularly in 23 institutions (26%), while 52 units (59%) used them only occasionally. Only seven units (8%) used quality or performance data sources in a regular fashion to evaluate their impact, whereas 40 units (46%) employed these methods occasionally (See Figure 4).

In contrast, this year's survey reveals significant increase in the reporting of the use of these activities to improve the effectiveness of educational interventions. Over 30% now report using in-course, practice enablers regularly; nearly 50% occasionally. Regular simulation use has grown to 10% and occasional use almost 50%. Regular pre-course QI data use has grown to 50%, though is less reported as a regular post-course activity (almost 40%). New questions this year relate to the use of meaningful interactivity (reported at 75% on a regular basis); and sequential activity, a method which appear under-utilized at <10%. See Figure 5.

Figure 5: The Use of Evidence-based Course and Program Aids in US and Canadian Medical Schools



The Funding of Academic CME

The survey asked several questions related to the funding structures and policies, income, and expenses of the CME unit budget.

Academic CME Revenues and Expenses

For 2009, CME units were asked report the revenue they generated from a variety of previously-selected sources. In total, representing the responses of a large percentage of the academic enterprise devoted to CME in North America, over 100 CME units reported \$342M in annual revenues, of which they spend slightly over \$370M, for a net overall loss. Of their revenues, 37% derived from registration fees (markedly up in two years from 29%); 28% from commercial support (markedly down from 2008 at 54%); and advertising and exhibits at 17% (nearly tripled from 2008 when it was roughly 5%). Institutional and other funding streams were essentially unchanged. Table 8 outlines the total revenue stream for Canadian and American medical schools, academic societies, and teaching hospitals. Figures 6a-d display percentages of revenue streams diagrammatically.

Table 8: Revenue Streams for Academic CME Units (Reporting US and Canadian Medical Schools, Academic Societies, and Teaching Hospitals)

	Number reporting \$0	Minimum	Maximum	Mean	Median	Sum
Commercial support (75)	9	\$0.00	\$11,000,000.00	\$1,158,153.23	\$212,256.50	\$97,284,871.00
Advertising and exhibits (116)	17	\$0.00	\$23,031,115.00	\$510,692.72	\$94,738.00	\$59,240,355.00
Registration fees (123)	9	\$0.00	\$18,200,000.00	\$1,042,576.26	\$273,494.00	\$128,236,880.32
Sales revenue from audio/video tapes and other enduring materials (26)	85	\$0.00	\$3,700,000.00	\$304,930.15	\$24,707.50	\$7,928,184.00
Funds from your institution (90)	30	\$0.00	\$2,010,604.00	\$259,943.98	\$179,786.50	\$23,394,958.00
Funds from government/public sources (12)	80	\$0.00	\$1,181,016.00	\$238,252.00	\$66,625.00	\$2,859,024.00
Educational research support (8)	91	\$0.00	\$151,465.00	\$43,870.25	\$17,338.50	\$350,962.00
Donations, grants from other sources (e.g., foundations) (25)	66	\$0.00	\$514,022.00	\$79,889.56	\$30,000.00	\$1,997,239.00
Other Fees (64)	31	\$0.00	\$13,502,050.00	\$516,220.88	\$61,946.00	\$21,165,056.00
					Total Revenue	\$342,457,529.32
					Total Expenses	\$370,101,527.00
					Net	-\$27,643,997.68

By this report, there has been a sizable decrease in the proportion of commercial support in a two year period as reflected by the data gathered from both US and Canadian schools. US schools reported 34% direct commercial support, appreciably decreased from previous surveys which indicated more than half of revenues derived from this source. Funding models differ significantly between US and Canadian schools. In general, much less commercial support is reported by Canadian schools versus their US counterparts (a reported 16% in Canadian schools). Similarly, institutional support varies commensurately; Canadian schools CME units receive nearly 14% of their support from institutions, slightly more than double their US counterparts. One area is roughly similar between the two countries; registration fees generate roughly 45% of revenues streams in both the US and Canada. See Figures 6a and b.

Reported in this survey, revenue from commercial support has decreased significantly in US medical schools and teaching hospital—and represents less than a fourth of support in Canadian medical schools and reporting academic society CME units.

Figure 6a: Revenue Streams for CME Units in US Medical Schools

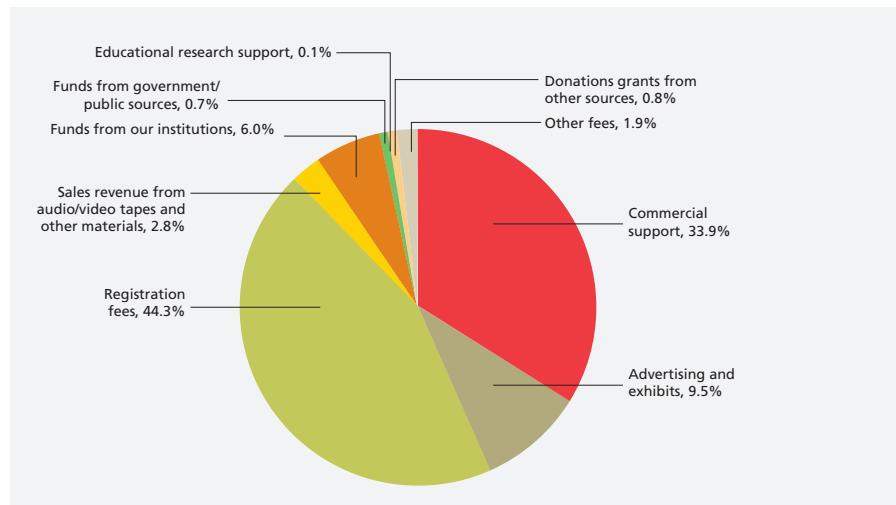
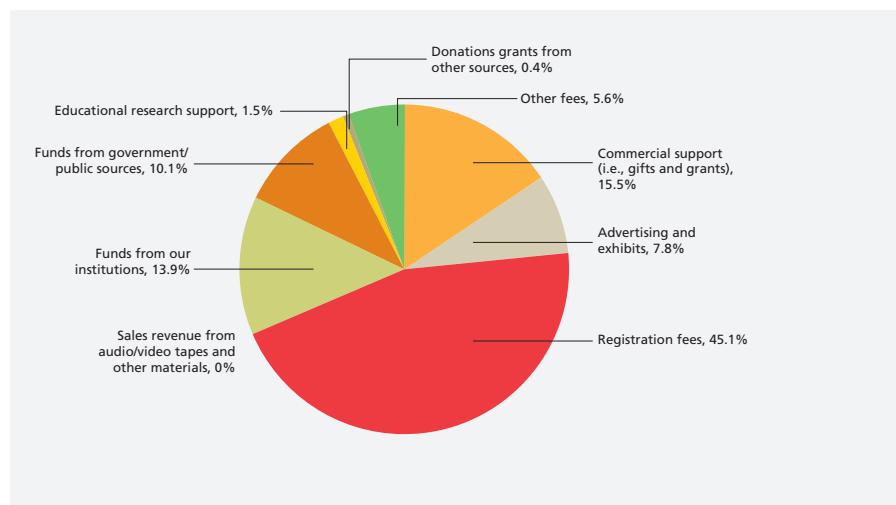


Figure 6b: Revenue Streams for CME Units in Canadian Medical Schools



Teaching hospital revenue streams (when compared to US medical schools) reflect a similar percentage of income from commercial support (31%), advertising and exhibits (12%) and registration fees (33%). Academic societies garnered much less support from commercial entities (11%) and registration fees (18%), and a significantly larger percentage (nearly half) from advertising and exhibits (48%).

Figure 6c: Revenue Streams for CME Units in US Teaching Hospitals

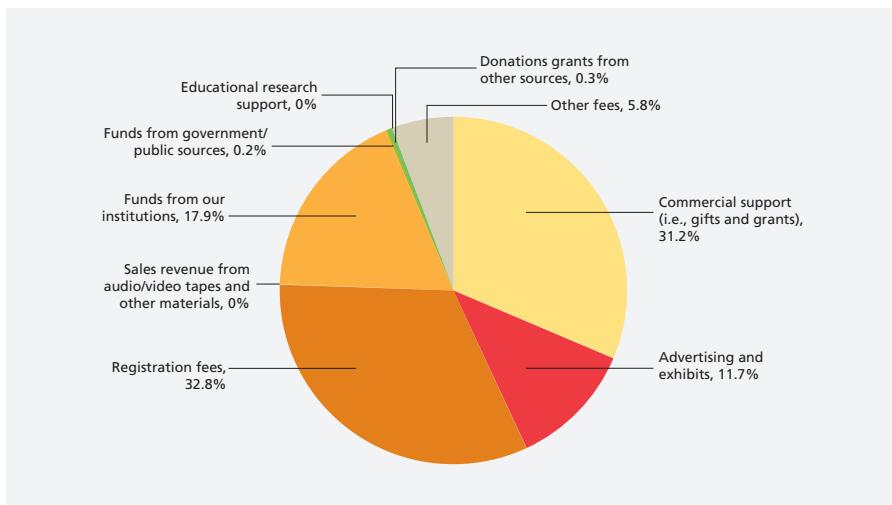
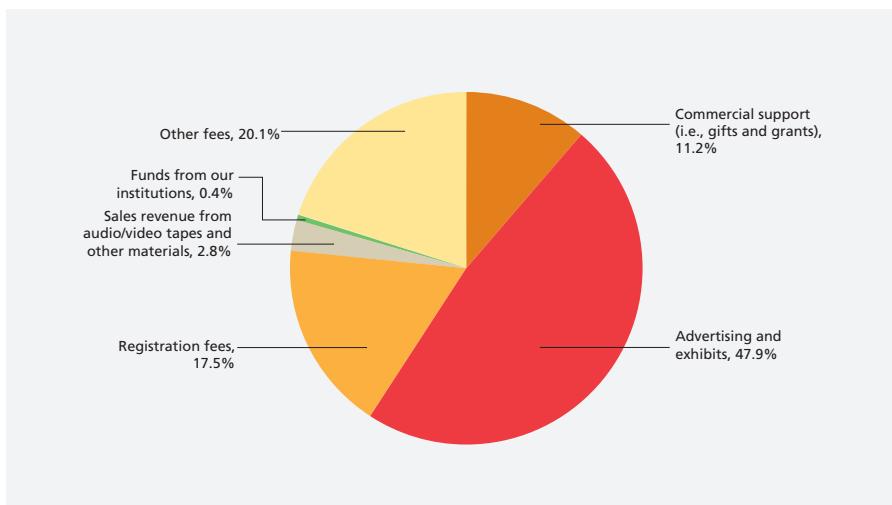


Figure 6d: Revenue Streams for CME Units in Academic Societies



Commercial Support in US and Canadian Medical Schools

Given the previously-reported strong dependence of these units on industry support—and the wide attention such funding receives in the press and elsewhere—the survey asked specific questions about the degree and role such support plays in the academic CME enterprise. See Tables 9a-c.

US and Canadian Schools have previously reported a relatively large number of CME activities which received commercial support. In 2008 for example, medical school CME units indicated 145 such courses, one third of which were solely supported; almost none of these would have been offered at all had the support not been available. This picture has changed significantly in 2010.

In this report, among US medical schools, this figure has decreased to an average of 68 courses (roughly half of all courses offered) which receive commercial support, 26 of which would have been solely supported, and 42 would not have been offered without such financial assistance. Among Canadian schools, the reporting units indicated a higher average number of commercially supported courses (88 in 2010; 58 of which would not have been mounted without this assistance), but a smaller number (10) which were solely supported.

Table 9a: Extent and Impact of Commercial Support in US Medical Schools

82 units reporting		Numbers of activities receiving financial support from commercial sources	Number of activities solely supported by commercial funds	Number of activities that would not have been offered without commercial support
Mean		68.00	25.83	42.89
Sum		5576	2092	3260
Percentiles	25	9	0	<1
	50	22	3	8
	75	49	30	35

Table 9b: Extent and Impact of Commercial Support in Canadian Medical Schools

6 units reporting		Numbers of activities receiving financial support from commercial sources	Number of activities solely supported by commercial funds	Number of activities that would not have been offered without commercial support
Mean		88.00	10.83	58.50
Sum		528	65	351
Percentiles	25	25	0	5
	50	36	7	19
	75	184	23	151

Comparable figures for teaching hospitals in the US are reported in Table 9c. Teaching hospitals indicated a difference in their approach to commercial support. While teaching hospitals indicated only a small number of courses on average which required commercial funding, when they took such funding it derived more frequently from one company solely supporting the activity. Small numbers of academic societies reported these data and thus are not displayed here.

Table 9c: Extent and Impact of Commercial Support in US Teaching Hospitals

40 units reporting		Numbers of activities receiving financial support from commercial sources	Number of activities solely supported by commercial funds	Number of activities that would not have been offered without commercial support
Mean		34.55	71.50	17.08
Sum		1382	2717	632
Percentiles	25	3	0	0
	50	10	4	2
	75	32	47	11

Policies In and Their Effect On CME

Institutional and regulatory changes with respect to CME may be reflected in the development and implementation of new policies in particular areas. For this reason, the survey determined the extent to which CME units have adapted or produced policies, several areas were flagged for consideration. See Table 10. These areas included policies related to administrative fees, registration fees, promotion and tenure related to engagement in CME, faculty honoraria, promotion and tenure for CME activity, and commercial conflicts of interest. Not surprisingly, most academic CME units have adapted or created policies related to fiscal and administrative issues such as faculty honoraria and conflict of interest (COI). However, most units have no established policy for rewarding or acknowledging faculty involvement in CME as a consideration in promotion and tenure.

Table 10: CME Unit Policies from Canadian and US Medical Schools, 2008-2010

	2008	2009	2010
Administrative Fees	88% (72/82)	75% (85/114)	83% (123/148)
Registration Fees	51% (41/80)	42% (48/114)	54% (80/147)
Faculty honoraria	90% (74/82)	90% (103/114)	95% (141/149)
Promotion and Tenure for CME activity	16% (13/79)	24% (27/114)	79% (114/145)
Policies regarding commercial COI	96% (79/82)	95% (108/114)	98% (145/148)

Among these policies, perhaps none has had a more profound effect—at least anecdotally—on the operation of the CME unit than those developed by the Accreditation Council for CME, affecting US CME providers. The survey asked to what extent the new ACCME criteria required them to make changes in the operation of their CME units. The majority (over 85% of the 88 US schools who responded) reported a moderate or extensive change in their operation. The change over a three year period is indicated in Table 11. Of interest, even Canadian schools, not under ACCME jurisdiction, also indicate a slight change as a result of these criteria.

Table 11: Extent to which ACCME Criteria Impact Changes in US Medical School CME Units

	2008	2009	2010
No Change	0	1.3% (1)	1.1% (1)
Slight Change	12.5% (3)	5.3% (4)	13.6% (12)
Moderate Change	83.3% (20)	61.8% (47)	50% (44)
Extensive Change	4.2% (1)	31.6% (24)	35.2% (31)

Research and Development (R&D) in Academic CME

Funded R&D in Academic Units

Institutions were asked if they participated in research or development activities. 33 CME units in medical schools, 11 in teaching hospitals, and one in an academic society reported receiving grants, for a total of 45 such units and 132 grants, and over \$5,000,000 in funding support.

Comparing the results of this survey relative to the productivity and grant capture of medical school CME divisions over three years permits two observations. There is a wide variability in the capacity and interest in generating such grants—from a very small number of academic societies to a large number, but by no means a preponderance of medical schools. However, despite this lack, there is a sizable activity reported in Canada (possibly the result of earlier accreditation requirements in this area), and to a lesser extent in the US among medical schools and a growing interest in the US among at least some teaching hospitals.

Table 12: Funded Research and Development in Academic CME Units

Institution Type	Number of units reporting CME and R&D	Total # of Grants undertaken (number reporting CME units in Brackets)	Total dollar value of Grants
US	26	55 (16)	\$ 1,735,000.00
Canadian	7	31 (4)	\$ 3,509,250.00
Teaching Hospitals	11	36 (6)	\$ 122,203.00
Academic Societies	1	10 (1)	\$ -
Total	45	132 (27)	\$ 5,366,453.00

Best Practices in Academic CME Units

Finally, the survey asked respondents to indicate their 'best practices'—innovations, initiatives, units, and other interventions which exemplify the creation of activities to enhance the effect and scope of 'CME'. While frequently not funded through peer reviewed or other formal granting mechanisms, these initiatives do represent major efforts on the part of academic CME providers. These were reported in various formats—by listing publications, presentations and posters developed as a result of the 'best practice', by describing them in some detail, or by capturing them in bulleted form. Over 100 such practices were recorded, ranging from findings of research studies to others indicating efforts to improve physician learning and change of CME operations within the academic CME environment.

In order to capture the topic areas of grants, publications and best practices, we employed grounded methodology using two writers (DD and CG) to review and categorize the research projects, best practices, publications and other indications of activity. A full list of such practices is available on the AAMC's website at www.aamc.org/cme.

Two hundred and eighteen items were submitted by 38 respondents. The largest category was:

Category	Number	Notes and examples of best practices or studies
Learner-focused studies	114	Some studies focused on attitudes towards commercial support of CME; many on inter-professional learning. Many (14 studies) focused on self-assessment abilities, or knowledge and attitudes (14 studies).
Educational Interventions	80	Strong focus on educational innovation such as simulations, mentorship, use of audience response systems, increasing interactivity, case presentations, debates and other measures. Considerable overlap with educational technology. Twenty best practices focused on performance and/or quality improvement strategies. An equal number concentrated on faculty development.
Outcomes	69	Heavy focus on changes in performance; less on knowledge, skills, attitudes.
Educational Technology	41	Sizable overlap with educational interventions, some with learner-focused studies. Majority of studies or best practices use on-line learning or decision-support technologies, few on social networking; one study focused on incorporation of learning objectives into EHRs.
Research	15	Efforts included those related to increasing research capacity, building new efforts in quantitative or qualitative research, developing collaborative.
Organizational	14	Initiatives included developing new needs assessment frameworks and partnerships, joint QI (hospital) and educational (medical school) efforts, increased linkages to the simulation center, comprehensive tracking of RSS, linkages/mergers with other offices such as strategic planning.

Discussion and Conclusions: Changes in the Picture of Academic CME

The third iteration of the annual AAMC/SACME Harrison survey demonstrates a viable and robust academic enterprise engaged in the ongoing education of practicing physicians and having its home in medical schools of the US and Canada, and in the US teaching hospitals and academic medical societies. For this report, its writers suggest first some caution about over-interpretation of the results, and then turn to a discussion about several key findings, also captured as 'Highlights'.

Any discussion of the results of the 2010 Harrison survey must stress its limitations. First, this is a self-report, not subjected to audit or other external scrutiny. Wherever possible and in order to validate findings, comparisons with ACCME data for the same year are made. Second, the survey responses do not represent the entirety of the academic CME enterprise: almost one fifth of medical schools and relatively larger percentages of teaching hospitals and academic societies did not respond to the survey. In particular, one or more large academic CME providers did not complete the survey; these may represent units with large commercially supported educational enterprises, thus skewing financial and other data reporting. Further, not all questions were answered by all respondents. Third and finally, although there was concordance of respondents among US medical schools of over 80%, at least some between-year comparisons may be limited by non-matching data for institutions across the three survey years.

Offsetting these limitations, however, we believe that the survey generates a useful list of subjects for discussion and analysis, helpful in commenting on the size and scope of the academic CME enterprise and its current and its possible future directions. Supporting this notion, at least among US and Canadian medical schools, we note an excellent response rate from US (84%) and Canadian (to a lesser extent, at 65%) medical schools; though lesser response rates from academic societies and teaching hospitals. Thus, we report primarily on medical school results. We anticipate a growing response rate from teaching hospitals and academic societies over time.

First, we note continued movement towards internal alignment, including an increased focus on an internal audience (clinical faculty and other health professions) as represented by a growing percentage of such audiences at continuing education and professional development activities. This finding builds on a growing relationship internally with CE units for other health professions, GME, and for faculty development. This process is by no means complete or widespread, however, and the process appears to neglect other areas of possible interest to continuing education providers in their service to the missions of the broader academic institutions in which they functions. This relative neglect is noticeable among relationships with faculty practice plans, health services research, libraries and health information technology units and undergraduate medical education, among others. It appears important to the survey writers that these relationships be more fully developed, given that linking continuing education to quality and performance improvement, faculty practice plans and clinical outcomes is an imperative of well-functioning health care systems.

Second, we note—despite a growing internal presence and alignment—a commitment, at least on the part of some schools, to community engagement and outreach. This is reflected in strong relationships between academic medical center CME units and community hospitals or VA hospitals in the US, and in Canada with provincial licensing boards. It is also reflected in the presence of outreach activities—visiting speakers units, live audio/video and webcasts, and (in some instances) academic detailing activities.

Third, we note a change in the mix and methods of educational offerings and interventions. On the one hand, there is an apparent decrease in the average number of standard courses, accredited CME activities such as rounds, and regularly scheduled series. While these data may be skewed somewhat by the lack of responses from one or more large academic CME providers, on the other hand, there appear to be an increase in the (still relatively small, but growing) number of ACCME/AMA designed learning activities such as PI-CME (performance improvement CME). Most importantly, significant progress appears to have been made in the use of activities/methods to enhance learning, notably meaningful interactivity in traditional didactic

formats, simulations, and objective planning data provided by quality measures.

Fourth, we note a change in the funding pattern of reporting academic CME units. Based on the results of this survey, at least among its respondents, there appears to be a movement away from commercial support for academic CME and one more dependent on registration fees and possibly on institutional support.

It should be noted that the survey results do not entirely match the picture presented in the 2009 ACCME data which reflects a slightly less changing picture. In 2009, 2008, and 2007, 124, 125, and 123 providers respectively submitted data on commercial support. The percentage of income from commercial support was practically unchanged, with 54%, 54% and 57% respectively reported for each of the past three years. Here again, the lack of response from one or more academic CME units may have altered this picture.

Finally, there are clearly strengths in academic CME units as presented in these data. Despite decreasing revenues, this report demonstrates a clear and impressive presence in the development and improvement of educational activities geared to practicing physicians and health professionals both internal to the academic medical center and external to it. It also represents a trend towards expanding the use of evidence-based, more effective educational methods and an impressive record developing scholarly activities and best practices.

Challenges remain however, the topic of future directions in this survey. They might well be summarized under the rubric of 'alignment' and would include synergizing the efforts of: the internal structures of the academic medical center in order to better meet the mission of the AMC; activities more related to performance and quality improvement within the academic medical center in order to improve the quality and health care outcomes of the clinical enterprise; others interested in community engagement and outreach; and faculty members of educational planners interested in applying the robust evidence-base for continuing education in the health professions.

The survey notes a clear and impressive presence in the development and improvement of educational activities geared to practicing physicians and health professionals both internal to the academic medical center and external to it. Challenges remain however, in aligning with the goals of the academic medical center in performance and quality improvement, community engagement and outreach, and in other areas.

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