INDIRECT COSTS PROGRAM

PROGRESS REPORT

FOR APRIL 1, 2006, TO MARCH 31, 2007

Canada

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1. INDIRECT COSTS PROGRAM

BACKGROUND

The December 2001 federal budget provided a one-time investment of $200 million to help alleviate financial pressures associated with federally supported research at universities and research hospitals. The 2001 budget also committed the government to working with the university community to find predictable, affordable and incremental ways of providing ongoing support for the indirect costs of research. The terms and conditions for the one-time payment were approved on February 7, 2002 (TB #829539).

Since the one-time payment consisted of a reimbursement of costs incurred in the past by universities and their affiliated research hospitals, performance measures were not relevant and therefore were not applied.

The 2003 federal budget provided $225 million per year through the granting councils, beginning in 2003-04, to help fund the indirect costs associated with federally supported research at universities, colleges and research hospitals. The terms and conditions for the new permanent Indirect Costs Program (ICP) were approved on July 23, 2003 (TB #830732).

Some $20 million was added in 2004, increasing the program's annual budget to $245 million. The 2005 budget received an additional $15 million, bringing total funds for the Indirect Costs Program to $260 million a year. Last, a further $40 million was added in 2006, bringing the program's yearly budget to $300 million.

PROGRAM OBJECTIVES

The overall purpose of the Indirect Costs Program is to help universities, colleges, hospitals and affiliated research institutes create a research environment allowing them to make best use of all federal funding for university research. This contributes to building a strong and innovative Canadian research environment that is better equipped to support world-class research. Specifically, the program seeks to help increase the research capacity of Canadian institutions by assisting in the expansion of their capacity to:

- attract and retain top-notch researchers;
- comply with regulatory requirements; and
- knowledge transfer and commercialization.

GOVERNANCE AND ADMINISTRATIVE STRUCTURE

The Indirect Costs Program is housed within the Canada Research Chairs secretariat, which is administered by the Social Sciences and Humanities Research Council (SSHRC). SSHRC, the Natural Sciences and Engineering Research Council (NSERC), the Canadian Institutes of Health Research (CIHR), and the secretariat of the Networks of Centres of Excellence provide data on their annual funding to eligible post-secondary institutions and their affiliated hospitals and institutes. They also assist the Canada Research Chairs secretariat in responding to requests for that data.

The Indirect Costs Program is managed by a steering committee, which is mandated to oversee the program's management and provide advice on its general policy approach. The committee includes the chairs of SSHRC, NSERC and CIHR, as well as the Deputy Minister of Industry Canada. The chair of SSHRC heads the steering committee.

SECRETARIAT

The Canada Research Chairs secretariat, which reports to the chair of SSHRC, administers the Indirect Costs Program. The secretariat manages the program's operation, including grants and operating budgets, and provides liaison with the universities, Industry Canada and provincial health and education ministries. It undertakes performance measurement, evaluations and audits, and reports on program activities to the Minister of Industry, the Treasury Board secretariat and, ultimately, Parliament. Together with SSHRC, the secretariat provides other administrative services, such as communications.

2. ACCOUNTABILITY AND EVALUATION

The Indirect Costs Program has adopted a number of approaches to address the issue of accountability: annual reporting by institutions; the review of institutional management of their indirect costs grants during the course of site visits; an internal audit scheduled for fiscal year 2008-09; and a sixth-year summative evaluation to be carried out in 2008-09.

ANNUAL REPORTS

At the request of universities and with their collaboration, the Canadian Association of University Business Officers and the financial officers of the granting agencies have established procedures for financial reporting and control. The program's Results-based Management and Accountability Framework (RMAF) requires participating institutions to submit a yearly report on their outcomes, including a statement of account. The information gathered through the reports is intended to account for federal funding and is a key element in the program's performance strategy.

The outcomes report provides quantitative and qualitative information on the impact that expenditures have had in each of five priority areas: facilities, resources, management and administration, regulatory requirements and accreditation, and intellectual property. The statement of account provides a list of expenditures made possible by program funding in each of the five areas.

Institutions fill out the report form on the Indirect Costs Program website (www.indirectcosts.gc.ca). This is the program's main communications tool, containing detailed information as well as electronic grant request and outcomes report forms.

As follow-up to the 2006 validation of the form and the many comments received from administrators of institutions, the secretariat introduced a new outcomes report form for 2006-07. This was intended to be more exact. It was developed to formulate questions that would receive answers better showing the impact of funding from the Indirect Costs Program on the institutions' research capacity. In addition, the changes ensure that institutions receiving a grant of less than $25,000 a year only have to complete a statement of account for their expenditures.

SITE VISITS

The performance monitoring visits for the Indirect Costs Program serve a twofold purpose: to substantiate performance data provided by the institution to the secretariat, and to collect additional information on program performance. Between September 2006 and February 2007, site visits were carried out at two colleges and at three out of 19 of universities with health-research affiliates. The program developed and implemented a protocol for monitoring site visits to ensure that participating institutions are complying with program objectives. Two criteria were used in the selection of institutions to be visited over the course of the next two years: the risk factor and the geographic/size distribution. It was determined that the risk factor is the highest where there are third-party transfers of funds, such as between a university and its affiliated research hospitals and/or health research institutes. It was also deemed important to visit institutions of various sizes and in as many provinces as possible.

INTERNAL AUDIT

Plans are under way to carry out an internal audit of the program in fiscal year 2008-09. The final determination of areas of concern or risk is being finalized.

SIXTH-YEAR EVALUATION

According to the terms and conditions of the program, which expire in June 2009, a summative evaluation of the program will be carried out in 2008-09.

3. ANALYZING THE PROGRAM'S IMPACT

GRANT IMPACT EVALUATION

It is a complex process to evaluate the impact of an indirect costs grant and report that impact, not only for post-secondary institutions that received funding but for the program secretariat. Funding provided by the program covers only a part of the actual amount of indirect costs of federally-funded research. The impact of that funding is therefore often not clear-cut and is spread over several years.

With the changes to the outcomes report form, the secretariat sought to be able to analyze more accurately the impact of funding from the Indirect Costs Program. Some quantitative data is now more specific — for example, details of expenditures by priority area. However, most institutions still find challenging the task of determining the impact of program funding on research capacity.

QUALITY OF REPORTS SUBMITTED

Despite the new wording for questions in the outcomes report, several institutions responded by giving examples of expenditures of program funding without describing the benefits for their research enterprise. The secretariat asked these institutions to provide additional information on this point via email if the rest of the report content was satisfactory.

For 2006-07, 115 grants were awarded to the group of 122 eligible institutions (seven colleges decided not to apply). Of the 115 institutions, 36 received a grant of less than $25,000 and had to provide a statement of account of their expenditures only. The other 79 institutions had to submit a detailed outcomes report. The great majority of these institutions had to provide clarifications or submit their report a second time.*

The following table gives figures for outcomes reports submitted in 2006-07. Note that the total number of reports recorded is greater than the total number of reports submitted (79) because some institutions had to resubmit their reports and also provide further explanations by email.

* Note that changes were made to the outcomes report form for 2007-2008 in response to the difficulties encountered with the 2006-2007 form.

TABLE 1: SUBMISSION STATUS OF OUTCOMES REPORTS, 2006-2007

Report status	Reasons	Number
1st submission	N/A	20
Clarifications requested	Additional explanations of expenditures via email	5
	Additional explanations of impacts via email	24
2nd submission	Errors in the assignment of expenditures to categories	28
	Non-eligible expenditures	4
	Errors in the assignment of expenditures to categories and non-eligible expenditures	4
	No explanation of expenditures incurred by affiliated institutes	5
	No explanation of expenditures incurred by affiliated institutes; errors in the assignment of expenditures to categories and non-eligible expenditures	1

4. EXPENDITURES

INSTITUTION CATEGORIES

To identify trends associated with expenditures of funding for indirect costs, institutions were categorized according to the amount of their grants. Table 2 gives the criteria for the categories, as well as the proportion of the program's grants budget used by each category of institution.

TABLE 2: PROPORTION OF GRANTS BUDGET, BY SIZE OF INSTITUTION

Category	Criteria	Number of institutions	Proportion of the total grants budget
Small	grant of less than $100 000	51	-1%
Medium	grant of $100 000 to $1 million	25	4%
Large	grant of more than $1 million	11	5%
Research-intensive	grant of more than $1 million and additional funds	28	91%

PROJECTED AND ACTUAL EXPENDITURES

With the help of the grants requests and the outcomes reports, we can compare projected and actual expenditures in each priority area. The following table briefly presents this information. It shows that actual expenditures did not differ significantly from projected expenditures.

TABLE 3: PROJECTED AND ACTUAL EXPENDITURES, BY PRIORITY AREA

Expenditure area	Projected expenditures	Actual expenditures
Facilities	$144 589 944	$105 670 430
Resources	$57 439 307	$62 219 139
Management and administration	$95 655 756	$96 580 544
Regulatory requirements and accreditation	$15 248 568	$19 403 478
Intellectual property	$16 121 425	$15 181 409

USE OF GRANTS IN PRIORITY EXPENDITURE AREAS

Whatever their size, institutions allocate their funds to the different expenditure areas in much the same way from year to year. This trend held in 2006-07 (see Chart 1). Expenditures were heaviest for facilities and management and administration, followed by research resources. They were lowest for regulatory requirements and intellectual property. However, Table 4 shows that small institutions allocated the bulk of their grants (67 percent) to the area of management and administration of their research enterprise.

CHART 1: PROPORTION OF GRANTS BUDGET ALLOCATED TO EACH PRIORITY EXPENDITURE AREA

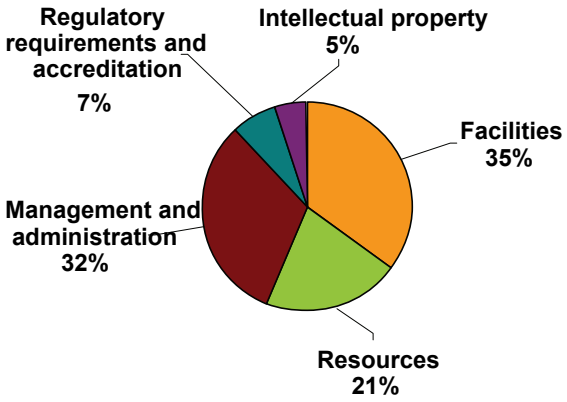

TABLE 4: PROPORTION OF GRANTS BUDGET ALLOCATED TO PRIORITY EXPENDITURE AREAS, BY SIZE OF INSTITUTION

Expenditure area	Small	Medium	Large	Research-intensive	Proportion of total grants budget
Facilities	13%	29%	32%	36%	**35%**
Resources	16%	24%	27%	20%	**21%**
Management and administration	67%	39%	28%	32%	**32%**
Regulatory requirements and accreditation	3%	4%	8%	7%	**7%**
Intellectual property	1%	4%	5%	5%	**5%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**

AFFILIATED HEALTH RESEARCH INSTITUTES

In 2006-2007, 18 institutions had agreements with health research institutes. These agreements are required under the program's terms and conditions to ensure that grants to institutions for indirect costs are shared equitably with their affiliated hospitals and health research institutes.

As Table 5 shows, expenditures of affiliated health research institutes represent 17 percent of the program's total budget. The expenditure trends of affiliated institutes are in line with those of universities and colleges; that is, the bulk of program funding is directed to the area of management and administration and the area of research facilities.

TABLE 5: EXPENDITURES OF AFFILIATED HEALTH RESEARCH INSTITUTES

Expenditure area	Expenditures	Proportion of total grants budget
Facilities	$12 769 308	4%
Resources	$4 332 432	2%
Management and administration	$21 306 431	7%
Regulatory requirements and accreditation	$7 477 762	3%
Intellectual property	$4 133 986	1%
Total	**$50 019 919**	**17%**

INVESTMENTS IN PRIORITY EXPENDITURE AREAS, BY PROVINCE/TERRITORY

From time to time the secretariat receives requests for information about the allocation of program funding broken down by the provinces/territories of grantee institutions. This information appears in Table 6.

TABLE 6: INVESTMENTS IN PRIORITY EXPENDITURE AREAS, BY PROVINCE/TERRITORY

Province	Number of institutions	Facilities	Resources	Management and administration	Regulatory requirements	Intellectual property	TOTAL
NL	1	$59 518 (1.4%)	$700 000 (16.6%)	$1 883 059 (44.6%)	$1 451 707 (34.7%)	$131 000 (3.1%)	**$4 224 984**
PE	1	$410 915 (41.2%)	$197 283 (20.0%)	$270 387 (27.4%)	$68 879 (7.0%)	$40 526 (4.1%)	**$987 990**
NS	11	$4 190 573 (38.5%)	$1 952 870 (17.9%)	$4 235 938 (38.9%)	$292 696 (2.7%)	$214 145 (2.0%)	**$10 886 222**
NB	4	$2 042 951 (44%)	$1 215 549 (9.1%)	$822 263 (17.7%)	$136 592 (2.9%)	$422 642 (9.1%)	**$4 639 997**
QC	30	$28 895 398 (35.3%)	$19 046 548 (23.3%)	$24 211 608 (29.6%)	$4 008 145 (4.9%)	$5 629 303 (6.9%)	**$81 791 002**
ON	27	$44 988 229 (39.1%)	$18 239 078 (16.2%)	$36 624 319 (32.5%)	$7 418 186 (6.6%)	$5 465 544 (4.9%)	**$112 735 356**
MB	6	$3 913 822 (43.5%)	$1 861 563 (20.5%)	$1 650 710 (18.3%)	$1 275 612 (14.2%)	$310 539 (3.5%)	**$9 012 246**
SK	3	$2 158 137 (25.7%)	$1 647 278 (19.6%)	$3 277 622 (39.0%)	$590 400 (7.0%)	$722 888 (8.6%)	**$8 396 325**
AB	14	$7 923 695 (25.6%)	$6 199 661 (20.0%)	$14 442 973 (46.6%)	$1 661 822 (5.4%)	$774 883 (2.5%)	**$31 003 034**
BC	15	$11 066 559 (31.3%)	$11 143 427 (31.5%)	$9 161 038 (25.9%)	$2 499 439 (7.1%)	$1 469 939 (4.2%)	**$35 340 402**
NU	1	$15 600 (49.5%)	$15 882 (50.5%)	$0 (0%)	$0 (0%)	$0 (0%)	**$31 482**
NT	1	$5 333 (100%)	$0 (0%)	$0 (0%)	$0 (0%)	$0 (0%)	**$5 333**
YT	1	$0 (0%)	$0 (0%)	$627 (100%)	$0 (100%)	$0 100%)	**$627**

DETAILS OF EXPENDITURES, BY PRIORITY AREA

The new 2006-07 outcomes report form asked for more specific information about the details of expenditures by priority area. Each area included from four to eight sub-categories of eligible expenditures. In each category of expenditures, institutions had to check a box, simply indicating whether they had allocated funds to that sub-category, whether this was new spending and/or an expenditure incurred previously and in which sub-category it had invested most of the 2006-07 grant funding.

The following sections give data for each priority expenditure area. The tables show the proportion of institutions that allocated funding in each expenditure sub-category. (The proportions are calculated for the total number of institutions of each size, except for small institutions; see footnotes.)

FACILITIES

- 72 of the 115 institutions (63 percent) invested program funds in research facilities. (See Table 7).
- Operating costs were the sub-category of expenditures in which the largest proportion of institutions (81 percent) invested, followed by renovation and maintenance of research facilities (67 percent), technical support (61 percent of institutions), and, finally, upgrade and maintenance of research equipment (48 percent). (See Table 7).
- Program funds covered more current expenditures than new expenditures in the area.
- All institutions said they used most of the funds for the operating costs of research facilities.

TABLE 7: PROPORTION OF INSTITUTIONS THAT INVESTED IN FACILITIES

FACILITIES	Small	Medium	Large	Research-intensive	ALL
	15/51 (29 %)	**19/25** (76 %)	**10/11** (94 %)	**28/28** (100 %)	**72/115** (63 %)
CATEGORIES					
Renovation and maintenance of research facilities	**3/7*** (43 %)	**11/21** (53 %)	**5/11** (46 %)	**26/28** (93 %)	**45/67** (67 %)
Upgrade and maintenance of research equipment	**2/7** (29 %)	**9/21** (43 %)	**4/11** (37 %)	**17/28** (61 %)	**32/67** (48 %)
Operating costs	**3/7** (43 %)	**17/21** (81 %)	**9/11** (82 %)	**25/28** (89 %)	**54/67** (81 %)
Technical support for laboratories, offices and other facilities	**4/7** (57 %)	**13/21** (62 %)	**4/11** (37 %)	**20/28** (71 %)	**41/67** (61 %)

* Note that of 51 small institutions, 15 directed funds to facilities and only 7 of them had to produce a detailed version of the report. The proportion has thus been calculated on the basis of the number of detailed reports submitted, not the number of institutions.

RESOURCES

- 81 of the 115 institutions (70 percent) invested program funds in the area of research resources. (see Table 8).
- Acquisition of library holdings was the expenditure sub-category in which the largest proportion of institutions (81 percent) invested program funds. Next, in order, were the sub-categories of improvements to electronic information resources (69 percent of institutions), library operating costs (43 percent) and, finally, insurance on research equipment and vehicles (25 percent). (See Table 8).
- Program funds covered more current expenditures than new expenditures for the area — except in the case of small institutions, where new expenditures were slightly above expenditures initiated previously.
- All institutions (except for small ones) said that they spent most money on acquisition of library holdings. The majority of small colleges and universities spent most money on electronic information resources.

TABLE 8: PROPORTION OF INSTITUTIONS THAT INVESTED IN RESOURCES

RESOURCES	Small	Medium	Large	Research-intensive	ALL
	23/51 (45 %)	**20/25** (80 %)	**10/11** (94 %)	**28/28** (100 %)	**81/115** (70 %)
CATEGORIES					
Acquisition of library holdings	**4/11*** (37 %)	**20/25** (80 %)	**10/11** (91 %)	**27/28** (96 %)	**61/75** (81 %)
Improvements to electronic information resources	**9/11** (82 %)	**15/25** (60 %)	**6/11** (55 %)	**22/28** (79 %)	**52/75** (69 %)
Library operating costs and administration	**2/11** (18 %)	**11/25** (44 %)	**3/11** (27 %)	**16/28** (57 %)	**32/75** (43 %)
Insurance on research equipment and vehicles	**0/11** (0 %)	**8/25** (32 %)	**3/11** (27 %)	**8/28** (29 %)	**19/75** (25 %)

MANAGEMENT AND ADMINISTRATION

- 103 of the 115 institutions (90 percent) invested program funds in the area of research management and administration. (see Table 9).
- The two expenditure sub-categories in which the largest proportion of institutions invested were institutional support for the completion of grant applications and research proposals (86 percent), and financial and other administrative services (81 percent). Next, in order, were human resources and payroll (74 percent of institutions); research planning and promotion (62 percent); training of faculty and research personnel (51 percent); purchasing, audit, health and safety costs (50 percent); and finally,

* Note that of the 51 small institutions, 23 invested program funds in resources and only 11 of these had to produce a detailed version of the report. The proportion has thus been calculated on the basis of the number of detailed reports submitted, not the number of institutions.

acquisition, maintenance and upgrading of information systems used to track grant applications, certifications and awards (42 percent). (See Table 9).

- Program funds covered more current expenditures than new expenditures in this area.
- All institutions (except small-sized ones) reported that they had invested the bulk of program funding in the category of administrative support, to support the completion of grant applications and research proposals. A higher proportion of small colleges and universities spent most money on human resources and payroll.

TABLE 9: PROPORTION OF INSTITUTIONS THAT INVESTED IN MANAGEMENT AND ADMINISTRATION

MANAGEMENT AND ADMINISTRATION	Small	Medium	Large	Research-intensive	ALL
	39/51 (77 %)	**25/25** (100 %)	**11/11** (100 %)	**28/28** (100 %)	**103/115** (90 %)
CATEGORIES					
Institutional support for the completion of grant applications and research proposals	**9/14*** (64 %)	**22/25** (88 %)	**9/11** (82 %)	**27/28** (96 %)	**67/78** (86 %)
Acquisition, maintenance and upgrading of information systems used to track grant applications, certifications and awards	**1/14** (7 %)	**9/25** (36 %)	**2/11** (18 %)	**21/28** (75 %)	**33/78** (42 %)
Eligible training of faculty and research personnel	**5/14** (36 %)	**14/25** (56 %)	**2/11** (18 %)	**19/28** (68 %)	**40/78** (51 %)
Financial and other administrative services	**5/14** (36 %)	**19/25** (76 %)	**11/11** (100 %)	**28/28** (100 %)	**63/78** (81 %)
Human resources and payroll	**10/14** (71 %)	**17/25** (68 %)	**6/11** (55 %)	**25/28** (89 %)	**58/78** (74 %)
Purchasing, audit, health and safety costs	**1/14** (7 %)	**10/25** (40 %)	**9/11** (82 %)	**19/28** (68 %)	**39/78** (50 %)
Research planning and promotion, and public relations	**4/14** (29 %)	**12/25** (48 %)	**5/11** (46 %)	**27/28** (96 %)	**48/78** (62 %)

REGULATORY REQUIREMENTS AND ACCREDITATION

- 60 of the 115 institutions (52 percent) invested program funds in the area of regulatory requirements and accreditation. A majority of each category of institutions allocated funds to this area, except for small institutions (only 10 percent). (See Table 10).

* Note that of the 51 small institutions, 39 allocated funds to management and administration, and only 14 of them had to produce a detailed version of the report. The proportion has thus been calculated on the basis of the number of detailed reports submitted, not the number of institutions.

- The two expenditure sub-categories in which the largest proportion of institutions (65 percent) invested were creation and support of regulatory bodies, and training of faculty and other research personnel. Next, in order, were technical support for animal care (52 percent of institutions), upgrades to research facilities and equipment (36 percent) and, finally, international accreditation costs (six percent). (See Table 10).
- Program funds covered more current expenditures than new expenditures for this area.
- All institutions (except large ones) reported that they had spent most money on creation and support of regulatory bodies. Large universities allocated their grant funds equally to the categories of creation and support of regulatory bodies, training of faculty and other research personnel, and technical support for animal care. Only one large institution directed most of its program funds differently, to upgrades to research facilities and equipment.

TABLE 10: PROPORTION OF INSTITUTIONS THAT INVESTED IN REGULATORY REQUIREMENTS AND ACCREDITATION

REGULATORY REQUIREMENTS AND ACCREDITATION	Small	Medium	Large	Research-intensive	ALL
	5/51 (10 %)	**19/25** (76 %)	**10/11** (92 %)	**26/28** (93 %)	**60/115** (52 %)
CATEGORIES					
Creation and support of regulatory bodies	**3/5*** (60 %)	**13/25** (52 %)	**6/11** (55 %)	**23/28** (82 %)	**45/69** (65 %)
Training of faculty and other research personnel in animal care, ethics review, radiation and biohazards handling, and environmental assessments	**2/5** (40 %)	**12/25** (48 %)	**7/11** (64 %)	**24/28** (86 %)	**45/69** (65 %)
International accreditation costs related to research capacity	**0/5** (0 %)	**1/25** (4 %)	**0/11** (0 %)	**3/28** (11 %)	**4/69** (6 %)
Upgrades to research facilities and equipment to meet regulatory requirements	**0/5** (0 %)	**4/25** (16 %)	**4/11** (37 %)	**17/28** (61 %)	**25/69** (36 %)
Technical support for animal care	**1/5** (20 %)	**6/25** (24 %)	**5/11** (46 %)	**24/28** (86 %)	**36/69** (52 %)

INTELLECTUAL PROPERTY

- 56 of the 115 institutions (49 percent) invested program funds in the area of intellectual property. A majority of all institutions directed funds to this area, with the exception of small institutions (only six percent). (See Table 11).
- Creation, expansion or maintenance of a technology transfer office or similar function was the expenditure sub-category in which the largest number of institutions invested (67 percent). Next, in order, were support for

* Note that of the 51 small institutions, 5 allotted funds to regulatory requirements and accreditation, and they all had to produce a detailed version of the report. The proportion has been calculated on the basis of the number of detailed reports submitted, not the number of institutions.

technology licensing (65 percent); administration of agreements and partnerships with industry (55 percent); administration of patent applications for inventions (50 percent of institutions); outreach activities undertaken to transfer knowledge (50 percent); support for the creation of spin-off companies (40 percent); marketing of teaching materials, scientific photo libraries, survey instruments, statistical packages, data sets and databases, software, computer models and other tools (40 percent); and finally, development of incubators (nine percent). (See Table 11).

- Program funds covered more current expenditures than new expenditures in this area.
- All except small institutions reported that they spent most money on creation, expansion or maintenance of a technology transfer office or similar function. Small colleges and universities spent most money on outreach activities undertaken to transfer knowledge.

TABLE 11: PROPORTION OF INSTITUTIONS THAT INVESTED IN INTELLECTUAL PROPERTY

INTELLECTUAL PROPERTY	Small	Medium	Large	Research-intensive	ALL
	3/51 (6 %)	**16/25** (64 %)	**10/11** (92 %)	**27/28** (100 %)	**56/115** (49 %)
CATEGORIES					
Creation, expansion or maintenance of a technology transfer office or similar function	**1/2*** (50%)	**11/25** (44 %)	**8/11** (73 %)	**24/28** (86 %)	**44/66** (67 %)
Administration of patent applications for inventions	**0/2** (0 %)	**7/25** (28 %)	**5/11** (46 %)	**21/28** (75 %)	**33/66** (50 %)
Support for technology licensing	**0/2** (0 %)	**4/25** (16 %)	**3/11** (27 %)	**19/28** (68 %)	**26/66** (40 %)
Administration of agreements and partnerships with industry	**1/2** (50 %)	**10/25** (40 %)	**6/11** (55 %)	**19/28** (68 %)	**36/66** (55 %)
Development of incubators	**0/2** (0 %)	**1/25** (4 %)	**0/11** (0 %)	**5/28** (18 %)	**6/66** (9%)
Support for the creation of spin-off companies	**0/15** (0 %)	**11/25** (44 %)	**8/11** (73 %)	**24/28** (86 %)	**43/66** (65 %)
Outreach activities undertaken to transfer knowledge through venues not eligible for funding under other federal programs	**2/15** (13 %)	**7/25** (28 %)	**5/11** (46 %)	**21/28** (75 %)	**33/66** (50 %)
Marketing of teaching materials, scientific photo libraries, survey instruments, statistical packages, data sets and databases, software, computer models and other tools	**0/15** (0 %)	**4/25** (16 %)	**3/11** (27 %)	**19/28** (68 %)	**26/66** (40 %)

* Note that of the 51 small institutions, 3 directed funds to the area of intellectual property and only 2 of them had to produce a detailed version of the report. The proportion has thus been calculated on the basis of the number of detailed reports, submitted, not the number of institutions.

5. INVESTMENT IMPACTS

INCREASED RESEARCH CAPACITY OF INSTITUTIONS

It should be recalled that the overall purpose of the Indirect Costs Program is to help colleges and universities increase their research capacity. The information and examples included in the outcomes reports show that program funds have helped maintain or increase this capacity, in a number of ways. We first consider the impact that funding in the expenditure areas has had on general research capacity, as described by the institutions. Next, we examine the program's three specific objectives: increasing institutions' capacity to attract and retain researchers, increasing their capacity to comply with regulatory requirements and, finally, increasing their capacity to transfer knowledge and commercialize research results.

INVESTMENTS IN THE EXPENDITURE AREAS

In the following section are examples that show the impact, at various levels, that funding has had on the research capacity of Canadian institutions. They tell about expenditures in the areas of facilities, research resources, and research management and administration. Later, sections consider the benefits of funding allotted to the areas of regulatory requirements and intellectual property, covering two of the three objectives of the Indirect Costs Program (see "Compliance with regulatory requirements" and "Knowledge transfer and marketing of research results").

Before examining the benefits of expenditures in the specific areas, we should note that one of the most significant impacts of the availability of program funding is that it enables institutions to redirect their own funds and invest in developing their research enterprise. Some 82 percent of the institutions thought that the program helped them in this regard.

Redirecting institutional funding

The ICP has also contributed to the leveraging of funding from other sources to allow greater outcomes than could possibly be achieved without the program. In many cases, the ICP funds were pooled with other resources to create a financial basis that achieved fully upgraded facilities in a timely manner. Without this creative synergy, the improvements to the research areas would have been accomplished over many years and the overall improvements would not have had the same impact. In addition, completing the upgrades in one package reduces the overall cost of the project. Therefore, when required, operating funds will be used to take advantage of these economies of scale for maximum impact to the research enterprise.

Research-intensive institution, Manitoba

As indirect costs of research in the institution and its affiliated hospitals are estimated to easily exceed $75 million per year, the contribution of the Indirect Costs Program has eased pressure on operating budgets, allowing the university to prioritize other critical areas, including its deferred maintenance inventory of over $190 million, the investment in the recruitment and retention of highly qualified academic and administrative staff in support of both teaching and research activities, and the establishment of interdisciplinary programs.

Research-intensive institution, Québec

As a direct result of the Indirect Cost funding, [the university] has been able to redirect some of its operating funds to make further investments in research at [the university]. For example, operating funds were used to renovate a laboratory within [the university's] biology building which allowed [the university] to attract a talented young NSERC and CFI-funded researcher. Operating funds were also used to provide financial support to [the university's] Office of Research and Graduate Studies for administrative staff and a dean of research position.

Medium-sized institution, Nova Scotia

Because we did not have to cover the indirect costs, funds were freed up for use in retaining a researcher specializing in pharmacodynamics, hiring a researcher specializing in milk products, hiring a technician in analytical chemistry and hiring an animal health technician. This enabled us to upgrade and develop our scientific expertise and the range of services offered to businesses, and to fully carry out our mission of assisting SME innovation projects.

Small institution, Quebec

FACILITIES

The largest single share of the program budget — 35 percent — went to expenditures for research facilities. Institutions stressed that the costs associated with operating a research enterprise are very high and that developing such an enterprise necessarily entails increased expenditures. They also noted the importance of cutting-edge research infrastructure and equipment to remain competitive in national and international scientific research. Since the expenditures for research facilities are so heavy, program funds have helped institutions maintain and, in some cases, increase their research capacity.

Funding in the area of research FACILITIES

The significant growth of research at [the university] over the last five years has put considerable stress on current facilities. Space is inadequate and many labs are in need of renovation to support the needs of new faculty research programs. In 2006-07, funds were used to support the capital planning for the current expansion project. This expansion will provide 6,121 net assignable square metres of new research space on campus for the science and social science departments. This indirect grant has been critical in the support of this expansion program through providing planning funding.

Research-intensive institution, British Columbia

Funds were used to renovate a physics research lab for our Canada Research Chair in Biomedical Applications of Ultrasound. The renovations included the installation of a fume hood, a laser protection curtain track and upgrades for data connections, etc. The increased capacity is crucial to maintain the research enterprise of this productive faculty member. During the period of this grant the investigator held 11 different awards with a total value of $2.2 million. The researcher is also active in the training of HQP at the undergraduate, graduate and PDF level, in addition to pursuing international and industrial research connections.

Large institution, Ontario

The grant of funds for indirect costs has had a significant impact on the university, particularly by increasing its research capacity. Among other things, the funding helped "modernize," as much as possible, certain science research labs requiring specific conditions, such as climate control (temperature, humidity, etc.). We don't want to suggest that any of the activities mentioned would not have been carried out without funding of indirect costs, but it must be said that facilities development and service quality would have been much less effective and would have caused at least a partial slowdown in the university's research progress.

Medium-sized institution, New Brunswick

This funding enabled a totally new approach to microscope use at the college in that we can capture digital photo and video images for research and classroom use, including the sharing of these digital images with the international research community. Without this program, our capacity to capture, store and share digital images and video that documents our research findings would not be possible. This also allows us to participate within provincial, national and international science communities.

Small institution, Alberta

RESOURCES

Given that most of the program funds went to research resources for libraries, institutions particularly emphasized the impact of investments in this area. Resources such as books, periodicals and access to research portals (such as the Canadian Research Knowledge Network) are indispensable for researchers. Researchers and their support staff also depend heavily on electronic information resources (access to databases, telecommunications and information technology systems) to maintain and upgrade their research capacity.

Funding in the area of research RESOURCES

Research success relies upon an up-to-date and robust electronic information infrastructure. Indirect costs funds provide critical support for the acquisition of library holdings, improved technology and library operating costs. The purchase of consortial full-text journal licences, negotiated through the Canadian Research Knowledge Network, have enabled the library to leverage indirect costs of research funding to acquire four to five times the value per dollar of information resources otherwise possible; the total number of journal subscriptions held by [the university's] libraries is approximately 33,000.

Research-intensive institution, Ontario

Renewal of subscriptions to the portals of electronic periodical publishers enables the university to have the latest information in different fields. As we noted, this is a basic tool that benefits the entire scientific community of the university.

Large institution, Quebec

As part of ongoing technology infrastructure support and maintenance for research, a portion of the grant was used to fund technology support costs. Two major areas where this funding was directed are support for CANET and the initial stages of implementing secure wireless networking on campus. CANET is a 1-gigabit research network providing both national and international broadband links for researchers transferring large amounts of data or collaborating remotely with other researches. Our wireless implementation has been driven by the increasing needs for remote and continuous connectivity on campus. As more researchers utilize portable devices as research tools, the university has endeavoured to support this trend by providing wireless connectivity throughout the campus.

Medium-sized institution, Nova Scotia

The grant investments to date have advanced our national and international contributions to research by providing up-to-date library and laboratory resources, not only for our students but also for international students and visiting scholars during the 2006-07 academic year.

Small institution, Saskatchewan

MANAGEMENT AND ADMINISTRATION

Institutions often mentioned that the administrative support provided to researchers made possible through Indirect Costs Program funding ensures the optimum functioning of their research enterprise. There are many and varied administrative services for research, but institutions particularly referred to the resources provided for completing grant applications and research proposals. The outcomes report asked institutions to evaluate the extent to which indirect costs funding helped them better deal with requirements for applications to granting agencies or submission of their reports. Some 53 percent of institutions replied "to a large extent," 30 percent replied "to some extent," 10 percent answered "a little," no institution replied "not at all," and seven percent thought the question was not applicable. The following quotations show the contribution made by the Indirect Costs Program.

Funding in the area of research MANAGEMENT AND ADMINISTRATION

The ICP grant continues to address the issue of increased workloads experienced by staff working in the Office of Financial Services as a result of increased external research funding to the university (approximately $19 million in 2006-07) and the increased financial accountability demanded by funding agencies. The ICP grant was used to support the salaries of the Manager, Research Trust Accounting (50 percent), Research Accounting Assistant (75 percent) and Research Analyst (25 percent), who are instrumental in assisting [the university's] researchers with the financial management of their research grants. These individuals are key to advising and training faculty on how to best manage their research funds. For example, these individuals held a financial training session in April 2006 for all researchers. It should be noted that the staff support is allowing researchers more time to actually conduct research and less time doing financial administration, thus increasing our researchers' capacity to undertake world-class scholarly activity.

Large institution, Ontario

The majority of the funding is used by our institution to fund administrative positions. These positions provide the support network required for our research enterprise. The positions include research officers who assist researchers in preparing grant proposals, intellectual property officers, a chemical and radiation safety officer, a records management support position and research accounting officers. All of these positions establish the internal control framework that is required to adequately administer the Tri-Council grants. If the funding was not available from the program, our institution would not have the staff required to adequately administer these grants in accordance with the Tri-Council guidelines. The administrative support network for the researchers would also suffer.

Large institution, Alberta

The grant enabled the university to ensure that it maintained a skilled research team capable of supporting professors specializing in different fields with their applications for grants and for the necessary accreditation to carry out their research. It is clear that the funding has thus contributed to the quality of professors' grant applications and has supported compliance with regulatory standards.

Large institution, Quebec

The ICP grant is critical to support research at our institution. We are a small, primarily undergraduate institution that has recently become degree-granting. Because of this history, having a research program is fairly new to our faculty, and requires the creation of a support structure including policy and procedures to govern research, the development of ethics committees and structures for monitoring the administration of awards, and compliance with the Tri-Council MOU. The research support services office has a very small budget, due to our recent involvement with Tri-Council research grants, yet has to be able to provide support for a wide range of research support — as wide as larger institutions, although we are not yet able to benefit from economies-of-scale. The ICP funding provides the means needed to support this range of services. Without the funding, it would be difficult to be able to provide a quality level of compliance.

Small institution, British Columbia

ATTRACTING AND RETAINING TOP-NOTCH RESEARCHERS

For 2006-07, institutions stated that funding of indirect costs helped their enterprise attract and retain top-notch researchers a little (20 percent), to some extent (41 percent), to a large extent (24 percent) or not at all (four percent); 11 percent of institutions thought the question was not applicable. Institutions that thought program funds contributed to their ability to attract and retain researchers mentioned first of all the role of investments in research facilities; next, in order, were funding for management and administration and, finally, funding in the area of research resources. Here are a few examples:

Ability to attract and retain top-notch researchers

The ICP grant contributed to improving research facilities on campus and as a result made [the] university a much more attractive institution for current and potential high-quality researchers. For example, the continued support of the highly qualified technicians and equipment in the central university instrumentation laboratory is continuously noted as extremely important to current researchers as well as new researchers considering positions at [the] university in the sciences and engineering.

Large institution, Ontario

In the highly competitive world of research, a proper research support structure and a high-quality research infrastructure are indispensable to attract and retain top-quality faculty. Without this vital contribution, it would not have been possible to develop research, and thereby to develop academic staff resources, in the faculties of medicine, science and engineering.

Large institution, Quebec

The competition for highly qualified personnel is high and the costs covered by the indirect costs grants had a direct and positive effect on individuals' decisions to join [the university] team. Faculty developed and completed a number of research projects, while simultaneously receiving training and development on high-calibre equipment, and from diverse resources via well-maintained facilities.

Medium-sized institution, Manitoba

By helping us support our researchers, the Indirect Costs Program enables us to remain the leader in CEGEP research. This, in turn, helps us and will continue to help us attract and retain quality researchers.

Small institution, Québec

COMPLIANCE WITH REGULATORY REQUIREMENTS

The high calibre of scientific research performed within Canadian universities and colleges necessitates giving top importance to compliance with regulatory requirements. Several institutions remarked that the requirements in terms of ethics review and accreditation are becoming increasingly strict, and that they must devote more resources to this area. And although only seven percent of the program budget had been allotted to the area of regulatory requirements and accreditation standards, several institutions thought that indirect costs funding enabled them to better meet ethics review requirements for research involving humans or animals (23 percent answered "to a large extent" to this question, 24 percent answered "to some extent," 19 percent answered "a little" and nine percent said "not at all").

Compliance with regulatory requirements

The grant supports all of the activities of the Research Ethics Board (REB) including its management and coordination. Without such support there would be significant delays in the processing of requests for ethical review. REB members are volunteers who spend significant time for REB work. Thus the management — preparation, scheduling, recording — is absolutely essential for the REB to function in a timely manner.

Small institution, British Columbia

Within the animal care area of the biology department, we have the new addition of a cage washer. The cage washer is required to be in compliance with Canadian Council on Animal Care Guidelines. In addition to compliance issues, the size of the washer has increased our capacity to clean and sanitize a wider variety of animal care equipment, using both chemical and non-chemical means. This washer is an essential tool in lab sanitation and infection control to provide an environment for healthy animals and, in turn, healthy research.

Medium-sized institution, Nova Scotia

We rely on this funding to train faculty and other personnel in animal care, ethics review and handling of hazardous materials. Without the funding, we would have difficulties ensuring that our institution consistently met the regulatory standards and would not be able to carry on with all of the extensive research programs currently under way.

Large institution, Alberta

The Tri-Council policy statement provides strict guidelines for ethics review requirements in the case of research involving human beings. The university must be equally strict so that research projects involving human beings and funded by the federal granting councils do not fall behind after the award of funding. To ensure monitoring of SSHRC-funded research projects with human beings, the university entrusts part of the tasks to a legal technician, with the funding covered by the grant from the Indirect Costs Program.

Large institution, Quebec

KNOWLEDGE TRANSFER AND COMMERCIALIZATION OF RESEARCH RESULTS

The contribution of knowledge transfer and the commercialization of research results is also a desired outcome of funding from the Indirect Costs Program. The outcomes report asked institutions to evaluate whether the grant enabled them to provide to federally funded researchers support for intellectual property management, knowledge transfer and/or marketing of research results. Some 35 percent of institutions answered "to a large extent," 29 percent answered "to some extent," eight percent answered "a little" and five percent answered "not at all." The majority of institutions thus thought that their grant contributed to this objective of the Indirect Costs Program.

Knowledge transfer and commercialization of research results

Support from the Indirect Costs Program is critical to the success of the technology transfer operation in our industry liaison office. Through the salary support of core staff in the office, the Indirect Costs Program allows the office to maintain base operations while also developing and supporting successful initiatives such as the New Ventures programs, International Business Development, and Education and Outreach.

Research-intensive institution, British Columbia

The ICP funding is absolutely critical to the university's success in knowledge transfer, i.e. translating the complex findings of the research enterprise for key audiences and the general public. Research communications has the expertise and journalistic experience to explain [the university's] research to the public through the media in ways that result in extensive and influential local and national coverage. Millions more people appreciate the value of [the university's] research and understand some of the key findings each year than would do so otherwise.

Research-intensive institution, Saskatchewan

The ICP grant has allowed the university to retain three professionals in the innovation management office (Technology Transfer Manager, Business Development Officer and Licensing Assistant) who are readily available to support researchers who have developed intellectual property as a result of federally funded research. Without the ICP grant, the university would have difficulty maintaining all three positions, which are critical for intellectual property management.

Large institution, Ontario

The indirect Ccsts grant covers 25 percent of the salary of [the university's] Industry Liaison Officer (ILO), a position made possible two years ago because of the Indirect Costs Program. Over the past year, the ILO has attended numerous workshops and training seminars to develop a high level of expertise in technology transfer, intellectual property (IP) and commercialization. The ILO has filed [the university's] first patents, is working on an IP policy for faculty and students, is maintaining statistics on IP, and is actively looking for industry partners for commercialization. This new capacity is very timely and was made possible by this program.

Medium-sized institution, Nova Scotia

6. CONCLUSION

Overall, institutions considered that Indirect Costs Program grants have had a positive impact on their research activities, and that the availability of this funding is essential for the effective operation of college and university research enterprises. Some even stated that without the Indirect Costs Program, their research capacity would certainly diminish. Accordingly, we can conclude that the funding generally helps to maintain or increase the research capacity of these institutions.

As in past years, some institutions (especially research-intensive and large institutions) mentioned in their reports that they would like higher funding levels so that they could better meet all the indirect costs of research. Some medium-sized and small institutions stressed that they are comfortable with the program structure — and even the allocation formula for adjusting funding levels according to the size of institution. These institutions said that the amounts received are indispensable for building their research capacity.

Despite the difficulties encountered with the new report form, a sizable number of institutions expressed their great appreciation of the service provided by the program secretariat, noting that it is ready to help them fill out the forms required and to answer their general questions.

All in all, institutions consistently said that grants from the Indirect Costs Program are indispensable to research development within Canadian colleges and universities, helping to ensure the institutions' standing in international scientific research.