

Human Resources

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Human resource shortages currently affect a number of health professions. Over the past few years, these shortages have affected pharmacy, and particularly hospital pharmacy, in a dramatic fashion. The scope of this problem is believed to be widespread and its impact has caused reductions in patient oriented pharmacy services.

Staffing

- Overall, the average of reported pharmacy staff paid hours per acute care patient day (excluding residents) remained unchanged from the 2001/02 Annual Report, at 0.74 (Table F-1). Prior to this report, there had been consistent upward movement of this average, with an overall increase of 29.8% since 1997/98, when this value was 0.57 paid hours per acute patient day.
- Comparisons at the provincial level showed that the average of reported paid hours per acute care patient day increased the most in New Brunswick and Prince Edward Island (15.5%), Newfoundland and Labrador (12.1%) and Saskatchewan (5.6%) and decreased the most in Nova Scotia (15.5%). In other provinces the change in the reported average was less than 5%. The average of reported paid hours per acute patient day decreased by 5.5% for hospitals with greater than 500 beds. In hospitals with complete unit dose and IV admixture systems the average decreased by 9.9% (Table F-2). This appears to be driven primarily by hospitals with complete unit dose systems, where the decrease was 11.4%. These changes may be the result of changes in demographics of respondents. For example, teaching hospital respondents represented 42.2% of the total in the 2001/02 survey, while this number decreased to 38.8% in this year's survey. This small change across the entire survey base may not contribute to large changes; however, it may lead to more dramatic changes within provincial data sets.

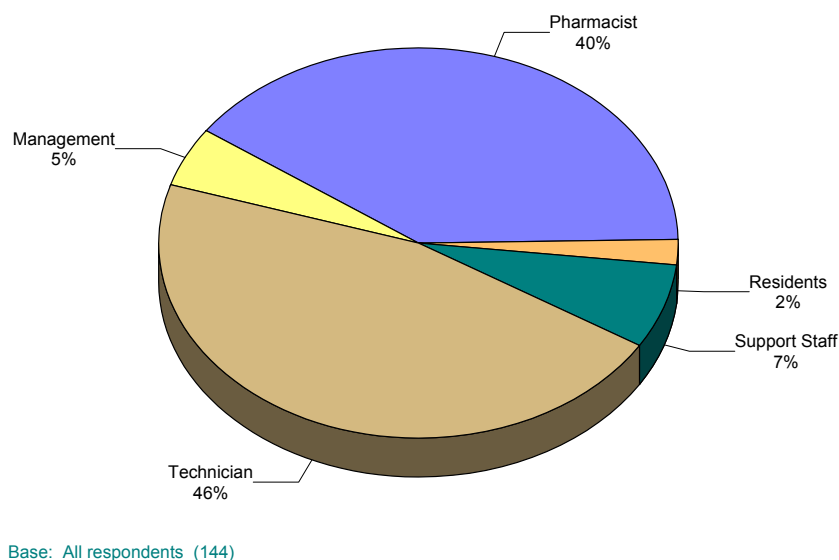
Table F-1. Average Budgeted Pharmacy Staffing and Net Percent Change in Staffing 2003/04

Hospitals (n=)	CANADA (144)	Province								
		BC (12)	AB (10)	SK (4)	MN (7)	ON (45)	QC (48)	NB/PE (9)	NS (7)	NL (2)
Pharmacist	16.1	13.3	21.7	20.3	19.3	18.0	14.8	10.2	13.7	8.0
Management	1.9	2.4	3.0	3.0	1.4	2.3	1.1	1.8	2.1	1.0
Technician	18.4	16.3	21.8	20.6	18.1	22.7	15.2	14.3	18.6	7.2
Support Staff	2.8	1.8	10.0	1.6	1.9	2.1	2.9	1.3	1.3	1.5
Residents	0.7	0.6	0.4	1.0	-	0.5	1.1	0.3	0.4	-
Total FTE	39.9	34.3	56.9	46.4	40.7	45.6	35.1	27.9	36.1	17.7
Total beds	420	575	501	462	360	424	388	299	409	492
Paid hours/ Acute Patient Day (n=140) (excluding residents)	0.74	0.71	0.83	0.75	0.72	0.84	0.66	0.67	0.71	0.74
Overall staffing change										
Net increase	38%	8%	70%	25%	71%	40%	27%	56%	57%	50%
Net decrease	21%	17%	-	-	14%	13%	40%	-	29%	-
No change	38%	75%	30%	75%	14%	44%	29%	33%	14%	50%

Table F-2. Average Budgeted Pharmacy Staffing by Drug Distribution System 2003/04

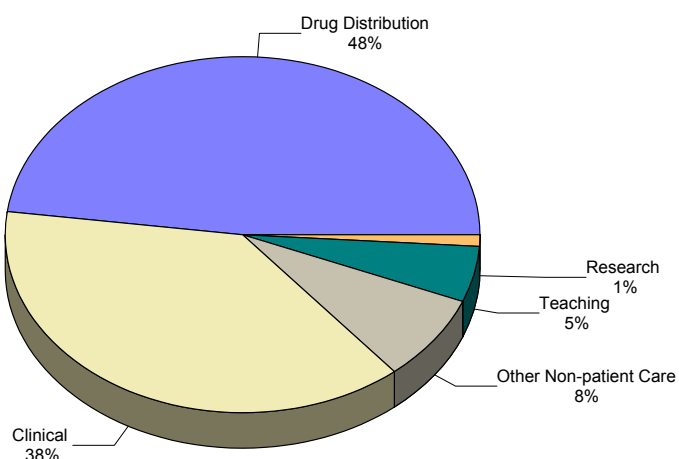
Hospitals(n=)	All (144)	Bed Size			Teaching Status		>= 90% Unit Dose	>= 90% Trad	>= 90% CIVA	>= 90% CIVA & UD	>= 90% CIVA & Trad
		100-200 (38)	201-500 (68)	>500 (38)	Yes (56)	No (88)	(45)	(28)	(81)	(35)	(8)
Pharmacist	16.1	4.9	12.6	34.3	27.7	8.8	17.3	13.3	20.5	20.0	15.3
Management	1.9	0.8	1.5	3.7	2.9	1.2	2.1	1.0	2.3	2.5	0.9
Technician	18.4	5.9	14.3	38.9	29.6	11.4	20.0	12.6	23.3	23.0	13.8
Support Staff	2.8	0.6	1.7	7.0	5.7	1.0	3.3	2.4	3.8	4.0	3.1
Residents	0.7	0.1	0.3	1.9	1.7	-	0.7	1.0	0.8	0.9	0.8
Total FTE	39.9	12.3	30.4	85.8	67.7	22.4	43.4	30.2	50.8	50.3	33.8
Total beds	420	150	328	857	594	310	430	307	493	467	340
Paid hours/ Acute Patient Day (excluding residents) (Base=140)	0.74	0.66	0.72	0.86	0.89	0.64	0.78	0.66	0.82	0.82	0.68

Figure F-1. Staff Composition of Average Hospital Pharmacy Department



- The overall staff composition of the average pharmacy department (Figure F-1) changed slightly from the 2001/02 report, with the percentage of pharmacists dropping to 40% from 44%, percentage of technicians increasing to 46% from 43%, and percentage of support staff increasing to 7% from 6%. This reflects the evolving and expanding role of pharmacy technicians in supporting pharmacy operations.
- In contrast to the 2001/02 report, where 50% of respondents reported an increase in staff positions, only 38% (55/144) reported an increase this year. In addition, 21% (30/144) reported a net decrease in staffing, which is up from 6% in 2001/02. This finding supports the observation that staff complements have remained stable since the 2001/02 Annual Report. The cause for this could be multi-factorial. Financial challenges faced by many hospitals, the lack of pharmacist staff and rapid growth of salaries might be contributory factors to the lack of staff growth in hospital pharmacies.

Figure F-2. Proportion of Time Spent by Pharmacists in Each Category 2003/04



Base: All respondents (144)

- Respondents reported that pharmacists spent approximately 38% of their time in clinical activities (Figure F-2, Table F3), which was essentially unchanged from the 2001/02 Annual Report (39%). The time reported as spent in clinical activities was lowest in Atlantic Canada (29%) and highest in the Prairies (46%). The reported percentage of time spent in distribution activities increased slightly to 48%, from 46% in the previous report. The reported time spent in distribution activities in non-teaching hospitals increased from 49% in the 2001/02 Annual Report to 54% this year. In contrast, this value decreased from 41% to 38% for teaching hospitals. Distribution time was highest in the Atlantic Provinces (60%) and British Columbia (57%) and lowest in Ontario (43%).

Table F-3. Proportion of Time Spent by Pharmacists in each Category 1997/98 - 2003/04

Hospitals (n=)	All (144)	Bed Size			Teaching Status		Previous Surveys		
		100-200 (38)	201-500 (68)	>500 (38)	Yes (56)	No (88)	2001/02 (123)	1999/00 (115)	1997/98 (122)
Drug distribution (including investigational drugs)	48%	53%	49%	41%	38%	54%	46%	49%	51%
Clinical activities	38%	32%	38%	44%	45%	34%	39%	38%	33%
Teaching	5%	5%	4%	6%	5%	4%	6%	6%	7%
Pharmacy research	1%	2%	1%	2%	2%	1%	2%	1%	N/A
Other non-patient care activities	8%	8%	8%	7%	10%	7%	7%	6%	9%

Salaries

- The salaries reported in the 2003/04 Annual Report (Table F-4) are reflective of those paid up to March 31, 2004. Salaries continue to be dynamic given the current labour shortages, so these figures may not reflect current salary figures as of the date of publication of this report. Clearly the approach in many areas of health care in Canada is toward a marked increase in compensation to health care workers. The average of reported expenditure per full time equivalent pharmacy staff position increased to \$54,959, from \$49,298 reported in the 2001/02 Annual Report. This increase is well above the increase in cost of living for the period; however this could, in part, be due to changes in the mix of respondents from various provinces. Prior to the 1999/2000 Annual Report, annual increases in salary per FTE had been in the 2% range. From the 1999/2000 Annual Report through to this report the average annual salary per FTE increase has been 5.6%.

- The definition of staff classifications in the 2003/04 Annual Report has changed somewhat from previous reports, making some comparisons with past reports difficult. In the 2003/04 Annual Report, respondents reported that salaries for pharmacists increased substantially over the 2001/02 Annual Report. Increases in average maximum salaries for pharmacy leadership and staff positions (both baccalaureate and advanced practice) increased by between 9.0% (4.4% annual) and 14.0% (6.7% annual) with the largest increase reported in the staff pharmacist classification. Teaching hospitals and hospitals larger than 500 beds reported larger increases in staff pharmacist salaries than non-teaching hospitals and hospital with 500 or fewer beds. The Prairie region reported the highest increase in maximum staff pharmacist salary (27.1%). Average maximum reported salaries for technicians increased by 5.3% (annual 2.6%). These increases were less than increases reported in the 2001/02 Annual Report.

Table F-4. Average Annual Salary by Position 2003/04

Hospitals (n=)	Canada (144)	Province								
		BC (12)	AB (10)	SK (4)	MN (7)	ON (45)	QC (48)	NB/PE (9)	NS (7)	NL (2)
Manager										
Start Salary (n=84)	\$68,649	\$74,427	\$73,105	\$73,148	\$92,304	\$72,131	\$60,299	\$65,602	\$59,314	-
Max. Salary (n=99)	\$84,681	\$89,464	\$89,848	\$85,923	\$100,038	\$84,807	\$83,552	\$76,536	\$71,232	-
Leader/ Supervisor/ Coordinator										
Start Salary (n=62)	\$67,074	\$71,265	\$74,051	\$69,706	\$86,933	\$70,023	\$57,513	\$62,100	\$56,949	\$61,549
Max. Salary (n=69)	\$79,696	\$85,482	\$83,140	\$74,129	\$86,933	\$82,511	\$77,097	\$70,811	\$62,468	-
Pharmacist (B.Sc.)										
Start Salary (n=119)	\$60,674	\$59,684	\$62,297	\$63,300	\$81,244	\$64,596	\$51,877	\$58,723	\$54,123	\$59,138
Max. Salary (n=120)	\$73,818	\$70,090	\$80,711	\$70,258	\$83,508	\$77,200	\$72,159	\$65,985	\$61,809	-
Pharmacist (Pharm.D. / M.Sc.)										
Start Salary (n=53)	\$62,694	\$65,681	\$75,123	\$77,252	\$93,588	\$70,069	\$52,099	\$67,210	\$64,042	-
Max. Salary (n=55)	\$77,059	\$78,905	\$88,477	\$82,027	\$93,588	\$81,961	\$71,273	\$68,562	\$76,800	-
Technician, Senior										
Start Salary (n=80)	\$33,160	\$41,245	\$46,490	\$36,028	\$34,133	\$40,525	\$27,092	\$30,081	\$30,462	-
Max. Salary (n=82)	\$38,291	\$42,814	\$59,143	\$38,181	\$37,485	\$47,213	\$32,795	\$32,858	\$35,661	-
Technician										
Start Salary (n=105)	\$33,299	\$39,853	\$41,000	\$30,658	\$28,659	\$36,532	\$26,716	\$27,207	\$28,724	\$27,825
Max. Salary (n=104)	\$38,179	\$41,482	\$49,772	\$33,106	\$34,831	\$42,863	\$30,331	\$28,619	\$33,547	-
Residency Stipend Average (n=31)	\$26,643	\$47,057	\$29,229	\$37,700	-	\$25,161	\$22,737	\$31,773	\$30,200	-
Overall										
Average Salary \$/ FTE (n=130) (without residents)	\$54,959	\$62,763	\$66,563	\$56,095	\$59,630	\$58,617	\$49,802	\$48,177	\$44,452	\$51,323

- Respondents indicated that 82% of pharmacy directors earned over \$80,000 per year, compared to 56% as reported in the 2001/02 Annual Report (Table F-5). Seventeen percent of directors were reported to earn over \$100,000 per year, compared with 6% in the previous report. Directors of Pharmacy in larger facilities and teaching hospitals tended to be compensated at higher levels.

Table F-5. Distribution of Director Salary Ranges 2003/04

Hospitals (n=)	Canada (144)	Bed Size			Province								
		100-200 (38)	201-500 (68)	>500 (38)	BC (12)	AB (10)	SK (4)	MN (7)	ON (45)	QC (48)	NB/PE (9)	NS (7)	NL (2)
Under \$70,000	2%	5%	-	3%	8%	--	--	-	-	-	-	14%	50%
\$70,000- \$79,999	15%	32%	10%	5%	-	-	25%	-	4%	17%	78%	43%	-
\$80,000- \$89,999	36%	34%	46%	21%	50%	-	25%	-	31%	58%	22%	14%	-
\$90,000- \$99,999	25%	11%	29%	32%	25%	50%	50%	86%	33%	8%	-	14%	-
\$100,000- \$109,999	10%	5%	7%	21%	17%	40%	-	-	18%	2%	-	-	-
\$110,000- \$119,999	3%	-	4%	5%	-	-	-	14%	2%	6%	-	-	-
\$120,000+	2%	-	-	8%	-	-	-	-	7%	-	-	-	-
no answer/no Director	6%	13%	3%	5%	-	10%	-	-	4%	8%	-	14%	50%

Human Resource Shortages

- Sixty-three percent (89/142) of respondents reported having pharmacist position vacancies at March 31, 2004, which was somewhat greater than the rate reported in 2001/02 (60%).
- Overall, respondents reported a total of 331 pharmacist position vacancies across Canada on March 31, 2004, which substantially exceeds the number reported in 2001/02 (228). The absolute number of reported vacancies will clearly underestimate the true pharmacist human resource gap across Canada, given the response rate to this survey. The increase in reported paid hours vacant is concerning in light of the service delivery needs. Budgeted staff increases show that pharmacists' services are in demand, however effective service provision is constrained by a lack of human resources. The situation could be worsening, as the reported positional vacancy rate as of March 31, 2004 (Table F-6) exceeds the reported paid hour vacancy rate for the fiscal year (Table F-7).
- Positional vacancy rates for residents this year rose from 7.4% in the 2001/02 Annual Report to 13.8% this year. This substantial rise in unfilled residency positions illustrates what could be a troubling trend as fewer students seek to engage in post-graduate hospital based education. Increases in tuition, student debt load and private sector wage rates for entry- level pharmacists are likely contributory factors. Should this trend continue, the availability of skilled practitioners able to practice in and provide leadership within complex hospital environments will be reduced.
- The most challenging labour market situation in the country appears to be in Nova Scotia. The overall positional vacancy rate for all staff in Nova Scotia was the highest reported in the country and the province led in pharmacist, management and technician paid hour vacancies.

Table F-6. Vacancy Rates – Percent Positions Vacant as of March 31, 2004 (Weighted Averages)**

Hospitals(=)	All (144)	Bed Size			Teaching Status		Province								
		100-200 (38)	201-500 (68)	>500 (38)	Yes (56)	No (88)	BC (12)	AB (10)	SK (4)	MN (7)	ON (45)	QC (48)	NB/PE (9)	NS (7)	NL (2)
Pharmacists (n=132)	12.9%	17.9%	14.1%	11.3%	10.6%	17.4%	9.6%	11.5%	4.9%	8.9%	13.6%	15.2%	12.7%	14.6%	-
Management (n=121)	6.9%	15.0%	4.7%	6.9%	4.6%	10.5%	3.8%	6.6%	8.3%	-	7.8%	2.1%	15.4%	20.0%	-
Technicians (n=132)	0.9%	1.0%	1.3%	0.7%	1.0%	0.8%	-	0.9%	2.4%	0.8%	1.0%	0.9%	-	1.5%	-
Support Staff (n=106)	1.2%	-	0.9%	1.4%	1.5%	-	-	1.0%	-	15.0%	1.1%	-	-	-	-
Residents (n=31)	13.8%	50.0%	17.4%	11.6%	14.0%	-	-	25.0%	25.0%	-	16.7%	10.0%	50.0%	33.3%	-
All positions (n=133)	6.3%	9.0%	6.9%	5.6%	5.5%	7.9%	4.0%	5.4%	4.3%	5.3%	6.5%	7.4%	6.0%	7.9%	-

Table F-7. Vacancy Rates – Percent Paid Hours Vacant during Fiscal 2003/04

Hospitals (=)	All (144)	Bed Size			Teaching Status		Province								
		100-200 (38)	201-500 (68)	>500 (38)	Yes (56)	No (88)	BC (12)	AB (10)	SK (4)	MN (7)	ON (45)	QC (48)	NB/PE (9)	NS (7)	NL (2)
Pharmacists (n=113)	12.3%	16.6%	12.2%	8.1%	6.3%	16.6%	9.1%	12.1%	2.9%	8.0%	15.3%	10.1%	15.6%	20.6%	4.8%
Management (n=105)	4.4%	1.6%	3.1%	8.6%	4.8%	4.0%	0.5%	10.4%	5.0%	0.4%	6.7%	0.6%	4.9%	11.6%	0.9%
Technicians (n=113)	0.9%	1.7%	0.7%	0.4%	0.9%	0.8%	-	-	2.4%	0.7%	1.3%	0.5%	-	3.4%	-
Support Staff (n=93)	0.7%	-	0.6%	1.1%	0.9%	0.4%	-	1.1%	-	2.6%	0.6%	0.3%	-	-	3.8%
Residents(n=28)	13.1%	37.1%	12.0%	10.7%	13.1%	-	-	74.2%*	-	-	11.5%	8.7%	30.7%	33.3%	-

*Note- vacancy rates for percent paid hours vacant are derived only from those respondents who reported a number of paid hours vacant, therefore this information does not support interpretation as a provincial trend.

Pharmacists

- In this annual report, vacancy rates are reported on a weighted basis, which may cause some variations in reporting from the 2001/02 Annual Report. The average percent of vacant paid hours for pharmacists reported was 12.3%, with a positional vacancy rate at March 31, 2004 of 12.9%. The paid hour vacancy rate increased slightly from the 2001/02 Annual Report (10.3%) while the positional vacancy rate rose substantially from the previous report (7%).
- Nova Scotia respondents reported the highest pharmacist paid hour vacancy rate (20.6%) with Quebec respondents reporting the highest positional vacancy rate (15.2%). Teaching hospitals (6.3%) and large hospitals > 500 beds (8.1%) reported the lowest paid hour vacancy rates. While the data does not offer clear reasons for these results, issues of geography may play a role to some degree, and small hospitals in rural communities may have particular challenges in recruiting pharmacists to hospitals.

Technicians

- By contrast, only 12% (17/144) of respondents reported having technician vacancies at March 31, 2004. The reported vacancy rate for technicians (based on both vacant hours and positions) was reported to be less than 1%. The highest paid hour vacancy rate was reported in Nova Scotia (3.4%).

Management

- Management vacancy rates were reported as 4.4% of paid hours and 6.9% of positions. The greatest position vacancy rates were reported in Nova Scotia (20%) and Quebec (15.4%).
- The average of reported durations of pharmacist vacancies rose slightly from 210 days in the 2001/02 Annual Report to 222 days in this report. The growth rate of the duration of vacancies appears to be stabilizing now. The average duration reported by respondents from hospitals with greater than 500 beds was 267 days (compared to 258 days in 2001/02), and the average for non-teaching hospitals was 245 days (compared to 177 days in 2001/02). The teaching hospital vacancy duration has shrunk to 193 days from 257 days in the 2001/02 Annual Report. This data may support the hypothesis that hospitals offering fewer services have a harder time recruiting new staff. British Columbia reported the greatest duration of the provincial breakdown at 310 days. Average management vacancy durations were reported as 46 days.

Impact on Patient Care Services

- Sixty-seven percent of respondents noted that services have been curtailed in the past year due to staff shortages (Table F-8). This percentage was consistent across all provinces, hospital size and hospital classifications. All service reductions remained consistent with the 2001/02 Annual Report except reduced service hours (38% vs. 27%) and curtailed inpatient drug distribution (26% vs. 19%) which both grew. This suggests that growing human resource shortages are now limiting core pharmacy service provision to a larger extent.
- The continued curtailment of teaching services is of concern given the move by academic institutions toward increased enrolment and entry-level Pharm D programs. The increased demand for clinical practicum training in hospitals will be greatly limited by the current and continuing labour shortages. The increase in curtailment of distribution services and hours of operation show that labour shortages are affecting core service delivery. Faced with the reality of core service limitations, hospital leaders may be forced to further limit teaching services at a time when academic institutions are seeking enhanced services.

Table F-8. Impact of Staff Vacancies on Pharmacy Services Delivered 2003/04

	Hospitals (n=)	2003/04	2001/02
		(144)	(123)
Pharmacies reporting that they had to curtail service due to staff vacancies		96 67%	74 60%
Impact of staff shortages: (n=74)			
curtailed direct patient care / clinical services		85%	80%
delayed implementation of an approved service		56%	59%
reduced teaching		52%	49%
reduced service hours		38%	27%
curtailed inpatient drug distribution		26%	19%
curtailed outpatient drug distribution		15%	16%
curtailed contract drug distribution		5%	12%
other		22%	14%

Summary

This year's Annual Report illustrates the growing problem of human resource shortages in Canadian hospital pharmacy. Based on trends from previous reports, this skill shortage is unlikely to dissipate in the near future, further compromising the ability of hospital pharmacies to deliver comprehensive quality patient oriented pharmacy services.