

Mental Health Hospitals

Nancy Roberts

Introduction

Prior to 2005/06, the Hospital Pharmacy in Canada survey was only distributed to “acute care” hospitals with at least 50 acute care beds and at least 100 beds in total. Mental health facilities, long-term care facilities, and other “non-acute care” hospitals were excluded from the survey distribution. Like pediatric hospitals, mental health hospitals are believed to be different than adult acute care hospitals with respect to their pharmacy staffing resources, drug costs, drug distribution systems, and other aspects of their pharmacy services. However, there is little data available from mental health facilities to quantify, or otherwise describe, any differences that do exist. In 2005/06, a decision was made by the editorial board, based on consultations with pharmacy managers in mental health facilities, to distribute the Hospital Pharmacy in Canada survey to mental health hospitals. A separate analysis of data returned by those facilities was subsequently conducted. In this chapter we present the data reported by 10 Canadian mental health hospitals that responded to the 2005/06 survey, and compare those results to data reported by the 142 “acute care” hospitals that also participated in the survey.

Demographics

- Hospital demographic information is reported in Table M-1 for the 10 respondents who indicated that they had at least 100 beds, of which at least 50 were “acute mental health care” beds. Two mental health respondents were from the Prairies, 3 from Ontario, 4 from Quebec and 1 from Atlantic Canada. Fifty percent (50%, 5/10) of the respondents reported that they were part of a multi-site organization and 40 % (4/10) indicated that they were independent, stand-alone facilities. Only one respondent met the criteria for being classified as a teaching hospital – membership in the Association of Canadian Academic Healthcare Organizations.
- The mean reported number of “acute” mental health care beds was 253, compared to a mean of 296 “non-acute” mental health care beds. In comparison, the 142 acute care hospitals reported a mean of 320 acute and 136 non-acute care beds. However, caution must be taken when making comparisons between the two groups, due to the small mental health sample size. In addition, the distinction between “acute” and “non-acute” mental health beds is somewhat ambiguous and may need to be more explicitly defined for future surveys.
- The average reported number of hours the pharmacy department was open in mental health hospitals was 47 hours, compared to 79 hours per week for acute care hospitals.

Clinical Pharmacy Services

Readers are encouraged to refer to the Clinical Pharmacy Services Section of the 2005/06 Annual Report – Hospital Pharmacy in Canada, for a complete picture of the national trends in clinical pharmacy practice and outcomes.

- The average reported percentage of mental health beds serviced with the pharmaceutical care model was 35%, which is identical to the results for the 142 acute care hospitals that participated in the survey (35%).
- The average reported percentage of mental health beds serviced with the traditional model, (52% for mental health hospitals versus 49% for acute care hospitals), or receiving no clinical service at all (39% for mental health hospitals versus 34% for acute care hospitals), was very similar.
- Seventy percent (70%, 7/10) of mental health respondents reported the provision of clinical pharmacy services to mental health outpatients. In contrast, only 27% (30/110) of acute care hospitals with outpatient mental health programs reported that they provide clinical pharmacy services to their outpatient mental health program.

- Admission drug histories and medical rounds participation - clinical pharmacy services identified by Bond et al.¹ as having a positive effect on health outcomes and a reduction in adverse effects - received a higher priority ranking, on a ten-point scale (one being the highest priority and 10 being the lowest), by mental health hospitals (4.6 and 4.0 respectively) than was given to those services by the acute care hospitals (each 5.1). Other clinical services receiving a higher ranking from mental health respondents than from acute care hospitals, were medication counselling (4.1 vs. 5.0) and patient education programs (5.2 vs. 6.7).
- The establishment of a policy for seamless care, identified as a required organizational practice by the Canadian Council on Health Facilities Accreditation (CCHSA), was only reported to be in place by 20% (2/10) of respondents for mental hospitals, compared to 37% (53/142) for acute care hospitals. This may be related to a higher proportion of long-term care patients in mental health facilities.

Drug Distribution

- Seventy percent (70%, 7/10) of respondents from mental health hospitals reported the use of unit dose systems in at least some parts of their hospital, similar to the 69% (98/142) of acute care hospitals that reported the use of unit dose systems.
- The percentage of mental health respondents reporting the use of total ward stock systems, in at least some parts of their hospital, was lower (10%, 1/10) than that reported by acute care hospitals (25%, 36/142). However, mental health hospitals reporting the use of traditional systems in at least some parts of their hospital was slightly higher, at 70% (7/10), compared to 56% (79/142) for acute care hospitals.
- Medication order entry in mental health hospitals is reported to be most frequently performed by pharmacists and technicians, as is the case for acute care hospitals. Orders entered by pharmacists were verified by another pharmacist at a much higher percentage, 67% (6/9) in mental health hospitals, compared to 34% (43/126) for acute care hospitals.
- Certification processes for technicians checking the work of other technicians were reported by 70% (7/10) of mental health hospitals compared to 85% (121/142) for acute care hospitals. A consistently applied process for technician recertification was reported to be fully implemented by 43% (3/7) of mental health hospitals, which was very similar to the 46% (56/121) figure reported for acute care hospitals.
- Thirty-three percent (33%, 3/9) of respondents from mental health hospitals reported the use of manually prepared medication tickets for $\geq 90\%$ of beds compared to only 8% (12/142) for acute care hospitals.

The high use of medication tickets raises cause for concern. The manual production of tickets or cards places the patient at risk from errors caused by transcription, and the large quantity and small size of medication tickets predisposes the tickets to be easily lost or misplaced.

- Medication profiles were reported to include all medications prescribed, for $\geq 90\%$ beds, by 100% (10/10) of the mental health hospitals compared to 88% (125/142) reported for acute care hospitals.

Drug Purchasing

Total spending on drugs in Canada increased by 11% in 2005, according to the Canadian Institute of Health Information's (CIHI) annual drug expenditures report. Drugs represented 17.5% of the health care dollar spending in 2005.²

- Respondents from mental health hospitals reported an 11% increase in total drug costs in the one year period from 2004/05 to 2005/06.

- The annual mean drug expenditure reported by respondents from mental health hospitals was \$1,903,752.
- The average drug cost per patient day for mental health hospitals, inclusive of acute and non-acute beds, was reported to be \$16.00. However, due to the small sample size (n=7), caution should be taken when using this value for benchmarking/comparison purposes. For mental health programs that operate within an acute care hospital, the mean reported drug cost per patient day was reported to be \$11.27 (see adult benchmarking chapter), a figure that is substantially less than that reported by the mental health facilities.

Human Resources

Human resource shortages continue to be a major issue in a number of healthcare professions and with the aging workforce, the number of retirements is expected to increase over the next few years.

- The average budgeted hours per patient day, acute plus non-acute, reported for mental health hospitals was 0.3, compared to 0.81 for acute care hospitals. The lower number of budgeted hours in mental health hospitals may be attributed to a number of factors identified previously, such as reduced hours of pharmacy operations and higher use of traditional drug distribution systems. In comparison, a figure of 0.34 budgeted hours per acute patient day was reported for mental health programs operated within acute care hospitals (see adult benchmarking chapter).
- The average total pharmacy full time equivalents (FTE) in mental health hospitals was 17.5 FTE compared to 44 FTE for acute care hospitals. A breakdown in the staffing composition of mental health hospitals compared to acute care hospitals can be found in Table M-1.
- The proportion of pharmacists' time spent on clinical activities in mental health hospitals is 43%, similar to 41% for acute care hospitals. Pharmacists' time spent in drug distribution was also similar to that reported for acute care hospitals (39% for mental health facilities versus 43% for acute care facilities).
- The average duration of pharmacist vacancies in mental health hospitals was 196 days, just slightly higher than the 182 days reported for acute care hospitals.
- The average expected pharmacist retirements per facility in the next 5 years was 2.0 versus a range of 1.4 to 2.9 for acute care hospitals.

Medication Safety Information

Readers are encouraged to refer to the Medication Safety chapter of the 2005/06 Annual Report – Hospital Pharmacy in Canada, for a complete picture of the national trends in medication safety practices.

- Ninety percent (90%, 9/10) of mental health respondents reported that a medication incident reporting system was in place within their hospital, compared to 96% (136/142) for acute care hospitals.

The majority of results in the medication safety information section for the respondents for mental health hospitals were very similar to the results from acute care hospitals, except for the following:

- Seventy-seven percent (77%, 7/9) of respondents (including those who answered “yes” or “partial”) indicated that incidents occurring during drug prescribing, and detected in the pharmacy before dispensing, are reported, compared to 46% (62/136) for acute care hospitals.
- Incidents detected on the patient care units, but before administration to the patient, are reported $\geq 90\%$ of the time by 89% (8/9) of respondents compared to 75% (102/136) in acute care hospitals.

- A Medication Safety Self assessment tool was reported to have been completed by only 50% (5/10) of mental health respondents compared to 71% (101/142) for acute care hospitals.
- Seventy percent (70%, 7/10) of respondents reported that most of the time ($\geq 90\%$), medication orders remain conditional until reviewed by a pharmacist, compared to 46% (63/142) for acute care hospitals. This is a noteworthy difference considering the significantly lower operational hours for mental health pharmacy services. However it is likely, in the mental health practice setting, that fewer new medication orders are written during evenings, nights and weekends, when the pharmacy is closed. It is also likely, in the mental health practice setting, that fewer new medications would need to be started immediately, as compared to acute care hospitals.
- Only 20% (2/10) of mental health respondents reported that they conducted a comprehensive medication history of all home medication when a patient is admitted to the mental health organization, compared to 42% (59/142) for acute care hospitals.
- Twenty percent (20%, 2/10) of respondents reported reconciling the patient's medications and communicating that information to the next provider of care when the patient is transferred between levels of care within the mental health facility, compared to 38% (54/142) for acute care hospitals.

Mental health organizations are encouraged to evaluate current policies and practices, in relation to the results shared above, to help identify the changes that hospital pharmacists, in collaboration with other health care providers and the leaders of their organizations, will need to implement in order to comply with the CCHSA's Patient/Client Safety Goals and medication related ROPs.

Technology

Pharmacy information systems, combined with automation technologies, offer substantial opportunities for improving the safety and efficiency of the medication system. Results from the 2005/06 Annual Report – Hospital Pharmacy in Canada indicate that acute care hospitals are only slowly beginning to embrace this change. Areas of note where mental health institutions are either leading, or lagging, when compared to acute care hospitals, are as follows:

- The percentage of respondents from mental health hospitals who reported an approved plan to implement a computerized prescriber order entry system (CPOE) was 40% (4/10), compared to 23% (33/142) of respondents from acute care hospitals.
- Eighty-eight percent (88%, 7/8) of respondents from mental health hospitals, who had the option to use drug allergy alerts, were using that functionality, compared to 95% (111/117) of respondents from acute care hospitals.
- Thirty-eight percent (38%, 3/8) of mental health respondents reported that they had the functionality in their pharmacy software to provide dosage modification alerts for both renal and hepatic dysfunction, compared to 33% (39/118) for hepatic function and 46% (54/118) for renal function, for acute care hospitals. Only 13% (1/8) of mental health respondents reported that they are actually using the functionality for renal dysfunction dose checking, compared to 59% (32/54) for acute care hospitals, and only 13% (1/8) were using the functionality for hepatic dysfunction dose checking, compared to 28% (11/39) of acute care hospitals.

These results again raise the question of why available patient-safety functionality is frequently not being used by hospitals across the country, particularly following the awareness created by the Institute of Medicine's "To Err is Human"³ report and The Canadian Adverse Event Study.⁴

Table M-1 Comparison of Key Indicators for Mental Health & Acute Care Respondents 2005/06

Key Indicators	Mental Health Hospitals (n=10, unless otherwise indicated)	Acute Care Respondents (n=142, unless otherwise indicated)
Demographics		
Number of beds – “acute” care	253 (n=7)	320
Number of beds – “non acute care”	296 (n=6)	136
Staffing & Compensation		
Pharmacists	7.3	17.6
Management	0.9	2.3
Technicians	7.5	20.6
Support Staff	1.8	2.8
Residents	-	0.7
Total approved FTE	17.5	44
Proportion of time spent by pharmacists in		
- drug distribution	39%	43%
- clinical activities	43%	41%
- teaching	9.30%	6%
- pharmacy research	3.60%	2%
- other	9.30%	8%
Budgeted hours/patient day (excluding residents)	0.3 (acute plus non-acute) (n=6)	0.81 (acute) (n=127)
Drug Purchasing & inventory		
Drug costs/patient day	\$16.00 (acute plus non-acute) (n=7)	\$36.80 (acute) (n=122)
Drug Distribution		
Pharmacy open hours per week	47	79
Drug distribution System (all beds or some beds)		
- unit dose	70%	69%
- central automated	10%	25%
- traditional	70%	56%
- total wardstock	10%	25%
- controlled dose card	20%	29%
Manually prepared medication tickets (>=90% beds)	33% (n=9)	8%
Clinical Pharmacy Services		
PC Model		
% beds serviced	35% (n=7)	35% (n=116)
Traditional clinical pharmacy services		
% beds serviced	52% (n=8)	49% (n=127)
No patient oriented clinical pharmacy services		
% beds serviced	34% (n=6)	39% (n=114)
Established policy for seamless care	20%	37%
Medication Safety		
Medication incident reporting system	90%	96%
Medication self-assessment tool completed	50%	71%
Comprehensive admission medication history of home meds.	20%	42%
Technology		
Approved Plan to implement CPOE	40%	23%

Education and Research

- In reviewing the Education and Research section survey results for mental health hospitals (n=10), compared to acute care hospitals (n=142,) the most noteworthy observation was that respondents from mental health hospitals reported significantly more time was committed to supporting the training of pharmacy technicians (an average of 220 days for the 2005/06 year), compared to acute care hospitals (an average of 98 days).
- The involvement of mental health hospitals in training all categories of pharmacy students is similar to the results for acute care hospitals, except for pharmacy residents (10%, 1/10, of the mental health facilities compared to 29%, 41/142, of acute care hospitals) and M.Sc. Hospital Pharmacy Students (20% , 2/10, of the mental health facilities, compared to 9%, 13/142, of acute care hospitals).
- Thirty-eight percent (38%, 3/8) of respondents from mental health hospitals reported that pharmacy staff members were involved in conducting original research, similar to 35% (49/142) of respondents from acute care hospitals.

Ethics

In the 2005/06 Annual Report – Hospital Pharmacy in Canada, the special interest topic dealt with the subject of ethics in healthcare. The survey addressed ethical issues within three healthcare domains – research, clinical care, and business. The following are a few highlights of areas where mental health hospitals results differ from those for acute care hospitals:

- In those mental health hospitals (7/10) with a hospital based Research Ethics Board (REB), also known as an Institutional Review Board (IRB), only 57% (4/7) indicated that a pharmacist was an integral member of the committee, compared to 81% (103/142) for acute care hospitals.
- Quality improvement initiatives were required to be reviewed and approved by the REB by 57% (4/7) of the respondents from mental health hospitals, compared to 19% (20/103) of respondents from acute care hospitals.
- An institutional policy dealing with the disclosure of adverse events was reported by 90% (9/10) of mental health hospitals compared to 83% (118/142) of acute care hospitals. However only 67% (6/9) of respondents from mental health hospitals reported that disclosure of such events to patient and family was required, compared to 90% (106/118) of respondents from acute care hospitals.
- Seventy percent (70%, 7/10) of respondents from mental health hospitals reported that their institution had a conflict of interest policy, similar to 68% (97/142) of respondents from acute care hospitals. However, a higher percentage of the mental health hospitals' conflict of interest policies addressed the following issues, when compared to acute care hospitals: referral of clients to private practice (57% vs. 35%), solicitation of sponsorship funds, grants or gifts (100% vs.67%), educational content and choice of speakers (57% vs.31%) and selling of data to external parties (100% vs. 63%).

¹ Bond CA, Raehl CL. Clinical pharmacy services, pharmacy staffing, and adverse drug reactions in US hospitals. *Pharmacotherapy* 2006;26:735-47.

² Drug Expenditures in Canada 1985 - 2005. Canadian Institute for Health Information. Ottawa: May 10, 2006. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=PG_570_E&cw_topic=570&cw_rel=AR_80_E. Accessed 2006 December 16.

³ Kohn L.T. Corrigan J.M, Donaldson M.S. *To Err is Human-Building a Safer Health System*. Committee on Quality of Health Care in America, Institute of Medicine, National Academy Press, Washington DC, 1999

⁴ Baker G.R. Norton P.G. et al. The Canadian Adverse Events Study the incidence of adverse events among hospitalized patients in Canada. *CMAJ*. 2004; 170 (11): 1678-86