A SURVEY OF PHARMACY AND THERAPEUTIC COMMITTEES ACROSS CANADA: SCOPE AND RESPONSIBILITIES

Nicole Mittmann[1,2], Sandra Knowles[3]

[1]HOPE Research Centre, Division of Clinical Pharmacology, Sunnybrook Health Sciences Centre, [2]Assistant Professor, Department of Pharmacology, University of Toronto, [3]Department of Pharmacy, Sunnybrook Health Sciences Centre

Corresponding Author: *nicole.mittmann@sunnybrook.ca*

ABSTRACT

Background
Pharmacy and Therapeutics (P&T) committees have traditionally evaluated and developed policies for the clinical use of medications and for ensuring safe and effective drug use and administration.

Objective
The objective of this study was to determine the current activities of hospital P&T committees across Canada.

Methods
Surveys were mailed to 856 (693 English, 163 French translations) Canadian hospitals (acute, chronic or rehabilitation) across Canada. Questions consisted of information on P&T membership, scope and responsibilities. Completed surveys were returned by fax. All data was entered into Excel and analyzed for descriptive statistics.

Results
123 surveys were returned, representing 207 hospitals, for an effective response rate of 24%. Four hospitals returned incomplete surveys. Surveys were returned from all areas of Canada, except the territories. On average, P&T committees met six times per year. The average size of the committees was 11 members, with physicians comprising half the membership. Pharmacists and nurses had equal representation; other members were community representatives, dieticians, quality assurance personnel and/or administrators. The top responsibilities of the P&T committee were inpatient formulary management (93% of respondents), drug-use policy making (92%), adverse drug reaction monitoring (83%), patient safety (80%) and drug-use monitoring (80%). Subcommittees were utilized by 46% of P&T committees including antimicrobial (38%), medication safety (25%) and nutrition (14%). Economic evaluations were most frequently completed by a pharmacist who had some previous pharmacoeconomic experience.

Conclusion
This survey reports on the current status and responsibilities, namely formulary management and policy making, of P&T committees in Canada.

Key Words: *Pharmacy and Therapeutic committees; Canada; survey; formulary decision making*

Hospital Pharmacy and Therapeutics (P&T) committees were initially developed to maximize rational drug use through consideration of safety and effectiveness. However, hospital P&T committees have evolved since their inception in terms of decision making processes,

committee membership and responsibilities. Overall, the P&T committee initiates and reviews policies regarding the selection, distribution, storage and safe use of medications within an institution. Responsibilities of the P&T committee have evolved from managing the formulary system to including medication-use-evaluation, adverse drug event monitoring, patient safety initiatives and development of clinical care plans and guidelines.[1] P&T committees operate within their institution and generally do not have influence on the community at large (e.g., provincial, federal) with regards to decision making or purchasing of products. P&T committee membership historically included physicians, pharmacists and nurses, although other health care professionals, such as dieticians, administrators and the public now are members on many P&T committees.[2,3] The emergence and importance of economic evaluations in the formulary decision process has not been captured from a hospital formulary perspective[4].

A review of the literature (MEDLINE, OVID 1965-present) found studies that have examined the role of P&T committees for therapeutic decision making particular to conditions (e.g., cardiovascular).[5] The objective of this study was to provide an update, from a broad perspective, regarding current activities of hospital P&T committees across Canada.

METHODS

Surveys were mailed to 856 (693 English, 163 French) Canadian hospitals and health care institutions. This list was generated from a general hospital distribution list. English and French questionnaires were mailed to the "Director of Pharmacy" at all acute, chronic or rehabilitation hospitals across Canada between June 2006 and December 2006. All hospitals, other than those in Québec received English surveys. All hospitals located in Québec received a French survey. Completed questionnaires were returned via toll free faxes. Reminders to complete the survey were not used.

Hospitals respondents would respond either individually or based on their regional affiliation. The unit of measure was the P&T committee. Hospitals with multiple sites (e.g., Sunnybrook Health Sciences Centre, Women's College Hospital and Holland Center) that have one P&T committee, were counted only once. Great care was used to exclude duplications.

A questionnaire was developed to examine hospital characteristics (e.g., academic, community), P&T membership (e.g., expertise, number), timing of review (e.g., frequency and amount of time allotted for meetings), responsibilities of committee (e.g., formulary management, adverse event monitoring), knowledge translation (e.g., decisions), communication with other sites (e.g., academic to community), use of economic analysis (e.g., formal, informal, budget impact), effect of medication bundling of products (e.g., does bundling of products favour formulary consideration), access to key opinion leaders (e.g., internal, external) and pharmacy input (e.g., extent, process). This questionnaire was not validated.

Data from incomplete surveys was considered in the analysis. There was no formal sample size determined as this was not a comparative analysis. Rather, a convenience sample of returned questionnaires was used for the analysis. A descriptive analysis (mean, SD, percentages, continuous and categorical data) of findings was conducted. A sub-analysis of academic and community hospitals and bed size was conducted.

RESULTS

A total of 123 surveys (Table 1) were returned from all areas of Canada (except the territories), representing 207 hospitals for an effective response rate of 24%. Four hospitals returned incomplete surveys.

TABLE 1 Hospital Demographics

Characteristics	Statistics
Total surveys distributed [n(%)]	856
• English	693 (81.0%)
• French	163 (19.0%)
• Returned surveys	127 (14.8%)
• Completed Surveys	123 (96.9%)
• Incomplete Surveys	4 (3.1%)
Province [n(%)]	
• British Columbia	6 (5%)
• Alberta	16 (13%)
• Saskatchewan	6 (5%)
• Manitoba	8 (6%)
• Ontario	54 (44%)
• Quebec	19 (15%)
• Atlantic provinces	13 (11%)
• Unknown	1 (1%)
Hospitals with regional P&Ts [n(%)]	38 (31%)
Academic Institution [n(%)]	24 (20%)
Mean number of acute care beds [mean±SD (range)]	273±431 (10-2800)
Drug budget [median (range)]	$1.7 million (208,000-60,000,000)
Number of meetings [mean±SD (range)]	6.6±2.8 (1-10)

General Information

On average, P&T committees met 6.2 times per year. For hospitals with 300 beds or more, meetings were held on average 8.2 times per year, whereas, those with less than 300 beds met an average 6 times annually. The average size of the committees was 11 members, with physicians comprising the majority (mean=4.7 individuals). Pharmacists and nurses had approximately equal representation (mean=2.3 and 2.1 individuals, respectively). The composition of the other members of the committee included community representatives (5% of respondents), dieticians (16%), quality assurance personnel (21%) and administrators (69%). Common committee responsibilities included inpatient formulary management (93% of respondents), followed by drug-use making policy (92% of respondents), adverse drug reactions monitoring (83% of respondents), medication patient safety initiatives (80% of respondents) and drug-use monitoring (80% of respondents) (Figure 1).

Subcommittees were utilized by 46% of P&T committees. Common subcommittees included antimicrobial/antibiotic (38%), medication safety (25%), nutrition (14%) and oncology (14%); although, other subcommittees existed (e.g., child health, drug utilization evaluation, parenteral therapy, cardiac care, formulary and pharmacy/nursing), depending on the needs and specialty of the institution.

Figure 1: Most Commonly Reported Pharmacy and Therapeutics Responsibilities

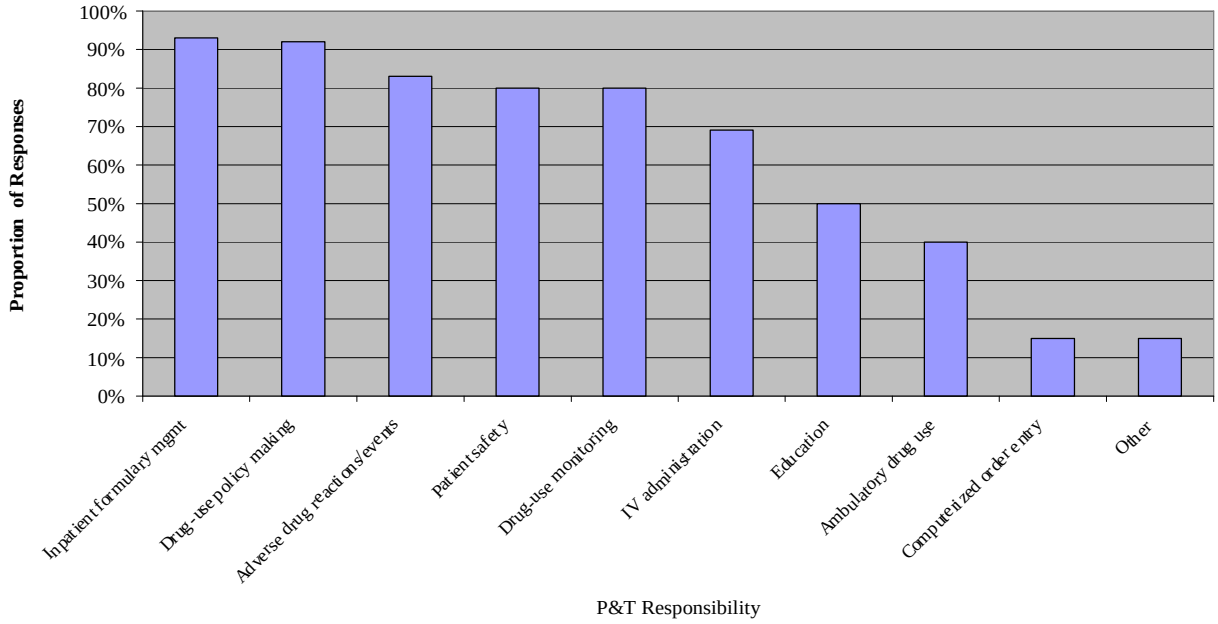
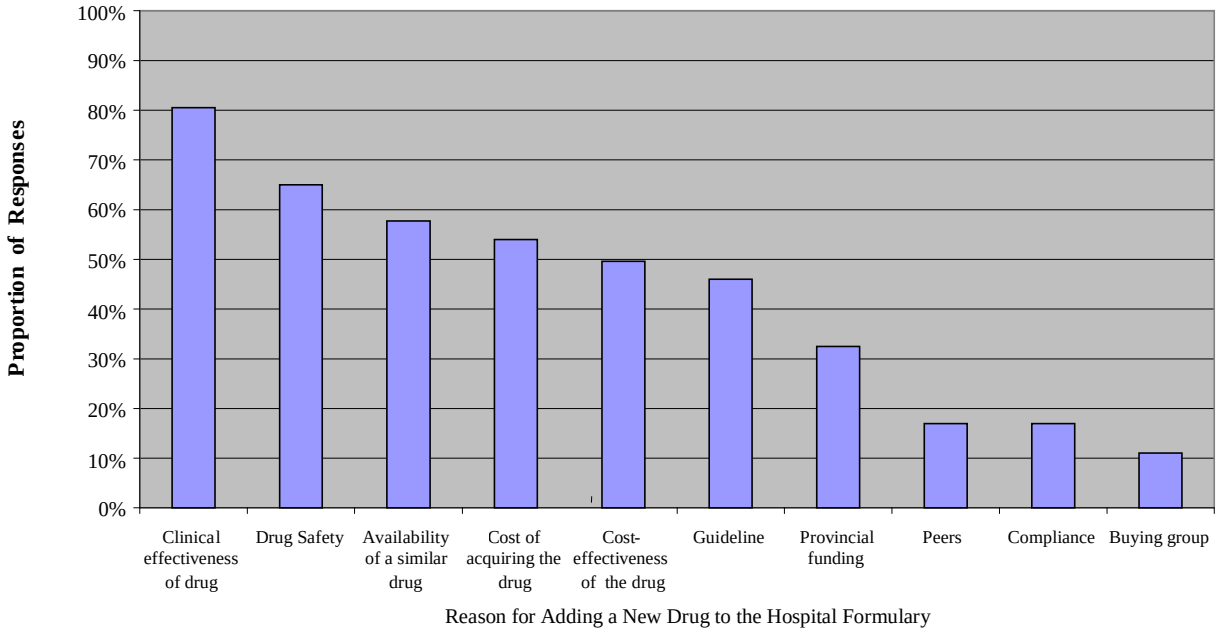


Figure 2: Most Commonly Reported Reasons for Adding a New Drug to the Hospital Formulary



Formulary Information

Most hospitals had a "combined" formulary (65%), with 20% of hospitals reporting a closed formulary system only and 14% were open system. Most hospitals (63%) consistently considered the formulary decisions made by other institutions and 24% considered other institutions' decisions occasionally.

Bundling of services (i.e., purchase of more than one drug from one manufacturer) was used in decision making by 22% of respondents and occasionally by 11% of respondents when discussing a formulary listing. Similarly, value added programs (e.g. education, in services, training) were considered consistently by 26% of respondents and occasionally by 11% of respondents.

When evaluating the addition of a new drug to the formulary, considerations included: the clinical effectiveness of the drug, drug safety (e.g., side effects, drug interactions), availability of a similar drug, cost effectiveness of the drug and cost of acquiring the drug (Figure 2).

Forty-six percent of respondents indicated that they did NOT use the submission binder prepared by the pharmaceutical company, while 28% used them occasionally and 24% used them consistently.

Economic Evaluation

More than one third of respondents (39%) consistently conducted their own institutional economic analysis (20% did occasionally). The economic evaluation was usually conducted by a pharmacist (76%) with some previous pharmacoeconomic experience. Published economic studies (23%), other hospital derived economic studies (12%) and pharmaceutical industry economic analyses (9%) were considered. In general, most respondents (68%) reported that the members of their P&T committees only had some experience with economic analyses, 26% reported having no experience at all and only 2% reported being experienced.

Communication and Knowledge Translation

P&T changes were communicated to hospital staff via printed materials (80%), targeted emails to selected staff (61%), Intranet (43%), in-service program (39%), hospital bulletin board (13%) and other (e.g. nursing book, communication binder, departmental meetings) (15%).

DISCUSSION

This study reports on the current status and responsibilities, namely formulary management and policy making, of P&T committees across Canada. Our findings indicated that P&T committee membership is diverse and includes administrators, community representatives and various allied health professionals in addition to the traditional physician, pharmacist and nurse membership. Although not reported in our survey, some committees have also included health care ethicists, geneticists and community members.[6]

Advisory subcommittees have evolved to manage many of the P&T committee tasks specific to a clinical area. Subcommittees in our study included antimicrobial/antibiotic, medication safety, oncology and nutrition. Other subcommittees that have been reported in the literature are policy and surveillance, biotechnology and cardiovascular.[7] The scope of the subcommittee is often dependent on the specialty and expertise of the institution and may help deal with increasing complexity of decision making.

Results showed that just over half of the respondents consistently consulted with other hospitals in making formulary decisions. When stratified into academic and community institutions, 44% of academic institutions consulted with other hospitals compared to 69% of community hospitals. This stratification was conducted because it was hypothesized that academic hospitals would have sufficient resources for in house evaluation of formulary submissions. Twenty-four percent of academic and community institutions reported that they sometimes consulted with other hospitals, although the scope of the communication was not defined. Thirty-two percent of academic institutions did not consult with other hospitals compared to 4% of community institutions. Efficiency of the formulary evaluation process may be improved by information sharing among larger academic centres and smaller community hospitals.[5]

The majority of the hospitals reported having a combined formulary system. An open or

unrestricted formulary is a comprehensive listing of medications typically offering almost every commercially available product in each therapeutic category. Closed formularies are exclusive lists of specific drugs that often limit prescribers to only some of the commercially available products in each therapeutic class. A combined, or partially closed, formulary limits prescribing choices within certain therapeutic classes, but offers unlimited choice within other drug classes.[8]

Factors involved in formulary decision making included clinical effectiveness of the drug, drug safety, availability of a similar drug, cost effectiveness of the drug and cost of acquiring the drug. In an Australian survey, domains of important drug and therapeutics committee decisions were patient safety, ensuring the practice of evidence based medicine within their institution and cost.[9] In our study, value-added programs and bundling of services were considered during the formulary review process. It is important to highlight that only about a quarter of respondents indicated that they sometimes used the formulary submission binder provided by pharmaceutical manufacturers for the P&T decision making. Queries regarding the quality of the formulary submission binders were not investigated in this study.

Economic evaluations were conducted consistently by only 40% of institutions; mainly by pharmacists, who indicated that they had some economic experience and training. It is not surprising that as drug expenditures increase, pharmacoeconomic evaluations are considered part of the formulary review process. A recent paper discussed the importance of economic evaluations and the formulary decision making process.[4] As well, a recent review of submissions to managed care organizations indicated that 40-50% of submissions contained an economic evaluation (budget impact or cost-effectiveness evaluations). Of those evaluations, less than half were considered adequate.[10] A survey of P&T committees in Florida indicated that 86% of the participants used pharmacoeconomic data all the time or very often when formulary decisions were made.[11] The usual sources of pharmacoeconomic data listed were in-house data (75%), published literature (57%) and pharmaceutical industry studies (13%). In our study, pharmaceutical industry sponsored economic evaluations were considered less than 10% of the time. In contrast to our study, two thirds of the managed care organizations indicated that they used the submitted economic dossier. Despite the prevalence of computers, P&T decisions are still generally communicated to the stakeholders at the institutions via printed material, although targeted emails were also frequently used.

Limitations of this analysis included the low (24%) response rate. Even though respondents represented all areas of Canada, except the territories, the results may not necessarily have been indicative of P&T committees across Canada. Our list of health care institutions considered hospital (acute care and long-term care), rehabilitation and chronic care facilities. The results analyzed were based on the self-reported respondent answers but were not verified. Results were based on interpretation of the question by the respondent. As well, the survey developed was not validated. Moreover, the authors were unable to judge whether the results were representative of the entire P&T population.

CONCLUSION

This survey reports on the current status, responsibilities and scope of P&T committees in Canada. Future studies will consider expansion of topics highlighted in this study such as the impact of value added programs, level of pharmacoeconomic experience, impact of medication bundling programs and relationship to provincial public plan formularies.

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REFERENCES

1. Tyler LS, Cole SW, May JR, et al. ASHP guidelines on the pharmacy and therapeutics committee and the formulary system. Am J Health Syst Pharm 2008;65:1272-83.
2. Pedersen CA, Schneider PJ, Scheckelhoff DJ. ASHP national survey of pharmacy practice in hospital settings: prescribing and transcribing--2004. Am J Health Syst Pharm 2005;62(4):378-90.
3. Mannebach MA, Ascione FJ, Gaither CA, Bagozzi RP, Cohen IA, Ryan ML. Activities, functions, and structure of pharmacy and therapeutics committees in large teaching hospitals. Am J Health Syst Pharm 1999;56(7):622-8.
4. Wang Z, Salmon JW, Walton SM. Cost-effectiveness analysis and the formulary decision-making process. J Manag Care Pharm 2004;10(1):48-59.
5. Shalansky SJ, Virk R, Ackman M, et al. Access to new cardiovascular therapies in Canadian hospitals: a national survey of the formulary process. Can J Cardiol 2003;19(2):173-9.
6. Balu S, O'Connor P, Vogenberg FR. Contemporary issues affecting P&T committees. Part 2: Beyond managed care. P&T 2004;29(12):780-3.
7. Wade WE, Spruill WJ, Taylor AT, Longe RL, Hawkins DW. The expanding role of pharmacy and therapeutics committees. The 1990s and beyond. Pharmacoeconomics 1996;10(2):123-8.
8. Description and Analysis of the VA National Formulary. Washington: National Academy Press, 2000.
9. Tan EL, Day RO, Brien JA. Prioritising drug and therapeutics committee (DTC) decisions: a national survey. Pharm World Sci 2007;29:90-6.
10. Nichol MB, Knight TK, Epstein J, Honda DH, Tretiak R. Opinions regarding the Academy of Managed Care Pharmacy dossier submission guidelines: Results of a small survey of managed care organizations and pharmaceutical manufacturers. J Manag Care Pharm 2007;13(4):360-71.
11. Odedina FT, Sullivan J, Nash R, Clemmons CD. Use of pharmacoeconomic data in making hospital formulary decisions. Am J Health Syst Pharm 200;59:1441-4.