Isabel E. Stauffer Meritorious Service Award Winner for 2001/2002: Marg Colquhoun

The Isabel E. Stauffer Meritorious Service Award is presented annually by Pharmaceutical Partners of Canada to a CSHP member in recognition of prolonged service and involvement in CSHP. This award recognizes members of the Society for significant, sustained contributions to CSHP, primarily at the branch and chapter levels.

Marg Colquhoun has held the position of Director of Pharmacy at York Central, Princess Margaret, and Markham Stouffville hospitals. In these institutions she has always tried to mentor and coach pharmacy teams, developing staff to enable them to take on new opportunities and implement innovative programs. Marg is passionate about developing the role of pharmacists and technicians to ensure their recognition and value within organizations. Marg spent an interesting 5 years, between 1996 and 2001, as a consultant both within and outside of the health care realm. This work provided a variety of opportunities, including a long-term project at the Mayo Clinic in Rochester, Minnesota, as well as work with private service agencies and many hospitals. She is now back in the hospital setting about 80% of the time but continues to consult. She has been re-recruited by Ontario Branch CSHP to assist with some recent submissions.

Marg has demonstrated passion and commitment to the profession through a variety of positions in the CSHP and other organizations, including the following: Presidential Officer, Ontario Branch CSHP, 1984–1988; President, Ontario Branch CSHP, 1986–1987; CSHP National Delegate, 1988–1991; Member of Board of Directors, Ontario Pharmacists Association, representing Ontario Branch CSHP, 1991–1993; and Councillor, Ontario College of Pharmacists, representing Ontario Branch CSHP, 1993–1996.

Marg has also actively participated in many key pharmacy committees: Standards of Practice Committee, Ontario College of Pharmacists, 1993–1997 and 1999–present; Quality Assurance Committee, Ontario College of Pharmacists, 1997–1999; National Standards of Practice Committee, National Association of Pharmacy Regulatory Authorities, 1996–1998; Oncology Patient Services Group Task Force, Metropolitan Toronto District Health Council Hospital Restructuring Committee, 1994; Chair, CSHP Drug Information Committee, 1979–1981; Public Relations Committee, Ontario Pharmacists Association, 1989–1990; Member, Ministry of Health Drug Programs Reform Secretariat Working Group on Prescribing; and Chair, CSHP liaison committee to Canadian Council on Health Facilities Accreditation. She also assisted in the revision of the 1992 Canadian Council on Health Facilities Pharmacy Standards and assisted in preparation of OHA/OB, CSHP Joint Response to the Ministry of Health's 1993 Consultation Paper on Drug Reform. She presented Ontario Branch CSHP Task Force recommendations to the Pharmaceutical Inquiry of Ontario (chaired by Dr. Frederick Lowy), and she is a founding member of the Canadian Board of Specialties in Pharmacy.

Marg Colquhoun, accompanied by Ross Davis of Pharmaceutical Partners of Canada.

Ortho Distinguished Service Award Winner for 2000/2001: Glen R. Brown

The Ortho Distinguished Service Award is presented annually by Janssen Ortho (Canada) Inc. to a CSHP member in recognition of outstanding achievement in hospital pharmacy practice. The award recognizes significant ongoing contributions to hospital pharmacy practice and to the CSHP at the national, branch, and local levels.

Glen Brown graduated in 1980 with a Bachelor of Science, Pharmacy from the University of Manitoba, and received his Doctor of Pharmacy from the Massachusetts College of Pharmacy in 1984. Dr Brown began his career as a staff pharmacist at Grande Prairie General Hospital and, after receiving his Doctor of Pharmacy, accepted a position as Assistant Professor in the Faculty of Pharmacy at the University of Manitoba, where he stayed from 1984 to 1987. Since 1987, Glen Brown has worked at St Paul's Hospital in Vancouver, first as the Assistant Director, Clinical, then as Manager, Pharmacy Satellite, and now in the position of Clinical Coordinator.

Glen Brown (at right), accompanied by John Harvey of Janssen-Ortho (Canada) Inc.

Dr Brown's exceptional contributions to hospital pharmacy complement a professional commitment to improving the profession's practice of quality clinical care. As a Board-certified specialist, Glen's expertise contributes directly to the improvement of patient care. Consequently, Dr Brown has helped to promote the unique value of the pharmacist within patient care teams. He takes great pride in being able to "walk the walk, not just talk the talk" in addressing the specific drug-related needs of patients under his care. In addition, Dr Brown is one CSHP's most prolific contributors to the professional literature. Not only has he been involved in research projects from his intensive care practice at St Paul's Hospital, but he has also published several noteworthy articles on the transition to pharmaceutical care.

One of Glen's greatest contributions to the Society was his 5-year leadership of the Pharmaceutical Care Advisory Committee, a role in which he helped to facilitate the Society's transition to pharmaceutical care. During this period, Dr Brown assisted in the production of a number of publications intended to aid this transition. He has also been a contributor to countless educational programs in British Columbia and across Canada. Dr Glen Brown is an outstanding member of the CSHP. His dedication to the profession of hospital pharmacy exemplifies both excellence and distinction.

Awards Presentations at 2002 Professional Practice Conference

Apotex Award
Management Issues in Pharmaceutical Care
Jean-François Bussières, Denis Lebel
Exploration et modèle d'analyse de ratios de coûts de medicaments par indicateurs de volumes d'activités en établissement de santé

Baxter Award
Innovation in Safe Medicine Practices
Jean-François Bussières, Denis Lebel
Impact d'une intervention visant à ameliorer la conformité des ordonnances de mèdicaments à la regle d'èmission au sein d'un etablissement de santé

Baxa Award
Innovative Practitioner
Fran Paradiso-Hardy, Claudia Bucci, Bill Bartle, Patti Madorin
Pharmacy-Based Heparin-Induced Thrombocytopenia Surveillance Program for Heart Valve Replacement Patients

Bristol-Myers Squibb Award
Clinical Pharmacy Program
Fran Paradiso-Hardy, Claudia Bucci, Bill Bartle, Patti Madorin
Pharmacy-Based Heparin-Induced Thrombocytopenia Surveillance Program for Heart Valve Replacement Patients

DuPont Pharma Award (sponsored by Bristol-Myers Squibb)
Oral Anticoagulant Therapy
Grace Leung, Lisa Dolovich, Heather Chase
A Pilot Study of a Possible Drug Interaction between *Ginkgo biloba* and Warfarin

Faulding Award
Oncology
George Dranitsaris, Pauline Leung
Implementing Evidence-Based Antiemetic Guidelines in the Oncology Setting: Results of a 4-Month Prospective Intervention Study

GlaxoSmithKline Award
Pharmaceutical Care
Karen Shalansky, Denise Carr, Fawziah Marra, Art Mallinson
Pharmacist Utilization of the DIE Test to Assess Aminoglycoside Vestibulotoxicity

GlaxoSmithKline Award
Pharmacy Administration
Neil MacKinnon
Do Canada's Hospital Pharmacy Management Personnel Have the Skills They Need? Results from a National Survey

Merck Frosst Award
Rational Drug Use
Sharon Yamashita, Jennifer Drynan
Comparison of Low Dose (1 µg) Cosyntropin and Conventional Dose (250 µg) Cosyntropin for Adrenal Insufficiency Testing in the Critically Ill

Novartis Award
Pharmacoeconomics
Peter Jewesson, Amy O. Wai, Carlo A. Marra, Luciana Frighetto
Patient Preferences in an Outpatient Parenteral Antibiotic Therapy Program

Novopharm Award
New Programs in Patient Counselling — Papers or Audio Visuals
Kathy Denesyk
A Medication Teaching Video Series for Organ Transplant Recipients

Pfizer Award
Long-Term Health Care
Susan K. Bowles
Use of Oseltamivir during Influenza Outbreaks in Provincial Nursing Homes, 1999-2000

Pharmascience Award
Patient Care Enhancement
Priti Flanagan, Debbie MacLeod
Development of a Tool to Assess the Geriatric Patient's Ability for Self-Medication

Roche Award
Specialties in Pharmacy Practice
Jean-François Bussières
Microbiological Validation of Sterile Preparation Procedures in a Pharmacy Department

Schering Award
Pharmacokinetic or Hospital Pharmacy – Industry Relations Research
Curtis Harder, Stephen Shalansky, Joanne Jung, Andrea Lee
A Comparison of 2 Dosage Regimens of Intravenous Vancomycin in Hemodialysis Patients

Awards Presentations at 2002 PPC

Apotex Award
Management Issues in Pharmaceutical Care
Jean-François Bussières, Denis Lebel accompanied by Allan Malek of Apotex

Exploration et modèle d'analyse de ratios de coûts de medicaments par indicateurs de volumes d'activités en établissement de santé

PPC AWARD PRESENTATIONS

Baxa Award
Innovative Practitioner
Fran Paradiso-Hardy, Claudia Bucci, Bill Bartle, Patti Madorin accompanied by Les Budai of Baxa

Pharmacy-Based Heparin-Induced Thrombocytopenia Surveillance Program for Heart Valve Replacement Patients

Baxter Award
Innovation in Safe Medicine Practices
Jean-François Bussières, Denis Lebel et al.

Impact d'une intervention visant à ameliorer la conformité des ordonnances de mèdicaments à la regle d'èmission au sein d'un etablissement de santé

PPC AWARD PRESENTATIONS

Bristol-Myers Squibb Award
Clinical Pharmacy Program
Fran Paradiso-Hardy, Claudia Bucci, Bill Bartle, Patti Madorin accompanied by Todd Spencer of Bristol-Myers Squibb

Pharmacy-Based Heparin-Induced Thrombocytopenia Surveillance Program for Heart Valve Replacement Patients

DuPont Pharma Award (sponsored by Bristol-Myers Squibb)
Oral Anticoagulant Therapy
Grace Leung, Lisa Dolovich, Heather Chase

A Pilot Study of a Possible Drug Interaction between *Ginkgo biloba* and Warfarin
(No photo available)

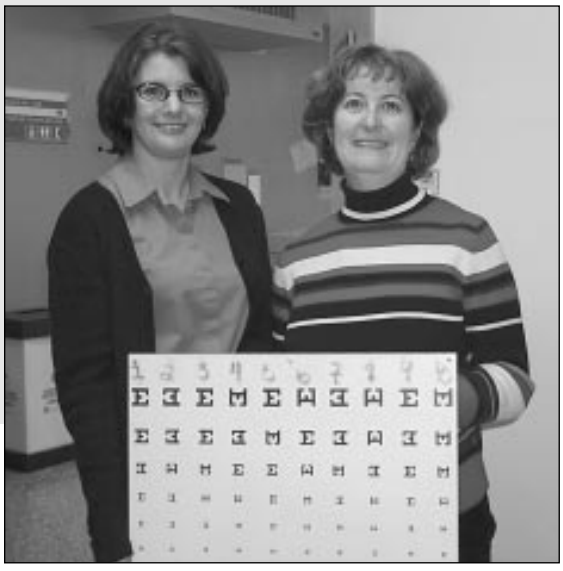
Faulding Award
Oncology
George Dranitsaris, Pauline Leung. George is accompanied by Laura Lec Atherton of Faulding

Implementing Evidence-Based Antiemetic Guidelines in the Oncology Setting: Results of a 4-Month Prospective Intervention Study

Merck Frosst Award
Rational Drug Use
Sharon Yamashita, Jennifer Drynan accompanied by Ginette Bernier of Merck Frosst

Comparison of Low Dose (1 µg) Cosyntropin and Conventional Dose (250 µg) Cosyntropin for Adrenal Insufficiency Testing in the Critically ill

PPC AWARD PRESENTATIONS



GlaxoSmithKline Award
Pharmaceutical Care
Karen Shalansky, Denise Carr, Fawziah Marra, Art Mallinson

Pharmacist Utilization of the DIE Test to Assess Aminoglycoside Vestibulotoxicity

GlaxoSmithKline Award
Pharmacy Administration
Neil MacKinnon

Do Canada's Hospital Pharmacy Management Personnel Have the Skills They Need? Results from a National Survey
(No photo available)

Novartis Award
Pharmacoeconomics
Peter Jewesson, Amy O. Wai, Carlo A. Marra, Luciana Frighetto.
Luciana is accompanied by John Lebold of Novartis

Patient Preferences in an Outpatient Parenteral Antibiotic Therapy Program

PPC AWARD PRESENTATIONS

Novopharm Award
New Programs in Patient Counselling — Papers or Audio Visuals
Kathy Denesyk is accompanied by Pera Lee of Novopharm

A Medication Teaching Video Series for Organ Transplant Recipients

PPC AWARD PRESENTATIONS

Pfizer Award
Long-Term Health Care
Susan K. Bowles

Use of Oseltamivir during Influenza Outbreaks in Provincial Nursing Homes, 1999-2000

Pharmascience Award
Patient Care Enhancement
Priti Flanagan, Debbie MacLeod. Thomas Simard presented the award on behalf of Pharmascience

Development of a Tool to Assess the Geriatric Patient's Ability for Self-Medication

Roche Award
Specialties in Pharmacy Practice
Jean-François Bussières

Microbiological Validation of Sterile Preparation Procedures in a Pharmacy Department

Schering Award
Pharmacokinetic or Hospital Pharmacy – Industry Relations Research
Curtis Harder, Stephen Shalansky, Joanne Jung, Andrea Lee

A Comparison of 2 Dosage Regimens of Intravenous Vancomycin in Hemodialysis Patients
(No photo available)

Exploration et modèle d'analyse de ratios de coûts de médicaments par indicateurs de volumes d'activités en établissement de santé

Apotex Award
Jean-François Bussières, Denis Lebel

On observe une croissance rapide des coûts du système de santé canadien. La dépense totale pour l'an 2000 est d'environ 100 milliards de dollars et représente un peu plus de 9 % du produit intérieur brut. La santé accapare environ le tiers des dépenses de l'état. Les hôpitaux représentent environ 27 % des coûts de santé contre 14 % pour les médicaments qui passent cette année au second rang devançant les honoraires de médecins. Il y a beaucoup moins de données diffusées sur les coûts de médicaments en établissement de santé par rapport aux coûts de médicaments remboursés par les régimes publics. Les coûts de médicaments en établissement sont généralement présentés avec les données des hôpitaux. Il ne faut toutefois pas sous-estimer l'importance relative des coûts de médicaments en établissement. Bien qu'ils représentent une portion limitée de l'ensemble des coûts de tous les médicaments (généralement 3-4 % du budget d'un établissement peut-être 10 % des coûts de médicaments au pays), nous savons qu'une amorce de pharmacothérapie en établissement se poursuit très souvent en milieu ambulatoire. Ainsi, les choix qui sont faits et influencés par le comité de pharmacologie, les pharmaciens et les médecins impact sur la facture globale des médicaments au sein de notre société.

Outre la disponibilité et la diffusion limitée des données de coûts de médicaments en hôpital, les pharmaciens d'établissements composent avec de nombreuses contraintes. Les systèmes d'information impliqués (i.e. approvisionnement, pharmacie, admission/départ/transfert, archives, laboratoires etc.) sont peu interfacés et non développés pour tenir compte de la perspective économiques. Il n'existe que quelques ratios de comparaisons des coûts (ex. coût/jour-présence, coût/admission) qui ne permettent pas de faire des comparaisons utiles et sérieuses entre les établissements, parce qu'on omet de contrôler plusieurs variables (ex. le type de système de distribution, la gamme des soins pharmaceutiques offerts, les heures d'ouverture etc.) d'abord et avant tout, le type de clientèle.

L'objectif de cet article est de présenter une démarche visant à intégrer des données provenant du système de gestion du dossier patient par les archives, du système de gestion des approvisionnements et du système de gestion du dossier pharmacologique et d'en tirer des applications pratiques. Nous explorerons le profil des coûts de médicaments pour ces clientèles en identifiant des ratios susceptibles de mieux nous renseigner sur les coûts et de faciliter la planification et les comparaisons. Nous discuterons de l'intérêt d'envisager la hiérarchisation des soins à partir de ces données.

Impact d'une intervention visant à améliorer la conformité des ordonnances de médicaments à la règle d'émission au sein d'un établissement de santé

Baxter Award
Jean-François Bussières, Denis Lebel

Nous avons procédé au printemps 2000 à la mise à jour de la règle d'émission des ordonnances qui décrit explicitement les modalités de rédaction de toute ordonnance de médicament dans notre établissement. Un comité formé de médecins, de pharmaciens et d'infirmières représentant les différents programmes-clientèles de l'établissement ont collaboré au projet et la règle a été adoptée par le comité de pharmacologie et le Conseil des médecins, dentistes et pharmaciens.

Méthodes : L'objectif de cette étude est de décrire la conformité des ordonnances de médicaments en vertu de la règle et de décrire l'impact de l'intervention du pharmacien sur la conformité dans un établissement universitaire x. Il s'agit d'une étude pré–post sans groupe contrôle.

Résultats : L'étude a permis d'évaluer un total de 1891 feuilles d'ordonnances (1311 pré et 580 post) et de 3532 ordonnances (2525 pré et 1007 post). La conformité à tous les critères objectifs (i.e. conformité totale) est passée de 39 à 47 % au niveau des critères spécifiques aux feuilles d'ordonnances et de 16 a 21 % au niveau des critères spécifiques des ordonnances de médicaments ($p < 0,05$).

Interprétation : Notre étude révèle qu'une feuille d'ordonnances sur 2 et une ordonnance sur 5 respecte tous les critères objectifs adoptés dans le cadre de la règle d'émission des ordonnances. Bien que l'intervention menée par les pharmaciens ait amélioré de façon significative la conformité totale (passée de 39 à 47 % au chapitre des feuilles et de 16 à 21 % au chapitre des ordonnances ($p < 0,05$)), force est de constater que les taux de conformité totale obtenus demeurent peu élevés. Il existe peu de données publiées sur la conformité des ordonnances en établissement de santé. Une connaissance du profil de conformité à la règle d'émission permet d'orienter les actions posées dans un processus d'amélioration de la qualité au sein d'un établissement de santé.

Mots-clés : ordonnances de médicaments, conformité, règle d'émission des ordonnances, comité de pharmacologie

Pharmacy-Based Heparin-Induced Thrombocytopenia Surveillance Program for Heart Valve Replacement Patients

Bristol-Myers Squibb and Baxa Awards
Fran Paradiso-Hardy, Claudia Bucci, Bill Bartle, Patti Madorin

Heparin-induced thrombocytopenia (HIT) occurs in approximately 3% of patients receiving heparin and is associated with a high risk of thromboembolic complications, including venous and peripheral arterial thrombosis, myocardial infarction, stroke, and death. Heart valve replacement patients receiving heparin are at high risk for developing HIT and thus require routine monitoring of platelets for its early detection to minimize complications. Prior to the development of this program, a co-ordinated, multidisciplinary approach to the detection and management of HIT did not exist in Canada to our knowledge.

The HIT Surveillance Program was developed in collaboration with the Pharmacy Department, Nursing, the Special Coagulation Laboratory, and the Thromboembolism Service. Pharmacists participating in the Pharmacy-Directed Warfarin Dosing Program assumed primary responsibility for co-ordinating the activities of the program. A delegated Medical Act was obtained by the pharmacists to perform the components of the program. The pharmacist is responsible for coordinating all the activities in the program, communicating information to various disciplines and the patient, and documenting all activities in the patient chart.

A retrospective audit of 500 heart valve replacement patients from 1995 to 2001 revealed 24 suspected cases of HIT. Complications that occurred in the 9 confirmed cases of HIT include 3 deaths, 2 cerebrovascular events, and 1 pericardial hematoma. To date, no cases of HIT have occurred in heart valve replacement patients since the inception of this program. The effectiveness and safety of this program will be prospectively assessed on an ongoing basis in order to reduce complications, ensure patient safety and that the program objectives are achieved.

A Pilot Study of a Possible Drug Interaction between *Ginkgo biloba* and Warfarin

DuPont Pharma Award (sponsored by Bristol-Myers Squibb)
Grace Leung, Lisa Dolovich, Heather Chase

Rationale of Study: Weak evidence from case reports has suggested that a herbal medication, *Ginkgo biloba*, can increase the risk of bleeding especially when taken together with warfarin.

Objective of Study: To determine if *Ginkgo biloba* causes a clinically significant increase in INR or decrease in platelet count in patients taking warfarin.

Study Design and Methods: This was a randomized, double-blind, placebo-controlled, crossover study. Subjects on warfarin with stable baseline INR were randomly assigned to treatment with *Ginkgo biloba* 60 mg twice daily or a matching placebo in weeks 1–2 and the alternate treatment in weeks 4–5 with washout periods in weeks 3 and 6. INR, CBC, signs and symptoms of bleeding were monitored twice weekly during treatment periods and once weekly during washout periods.

Results: Seven patients completed the study. Their mean age was 67.1 years and 43% were female. There was no statistically significant difference in mean INR ($p = 0.077$) or platelets ($p = 0.496$) between the 2 groups. The effect of sequence was also not statistically significantly different. No clinically important cases of bleeding occurred.

Conclusion: Despite no convincing evidence of a ginkgo-warfarin interaction, there is a potential for a type 2 error due to small sample size. Health care professionals should continue to advise against the use of ginkgo in patients on warfarin until results are available from larger studies.

Key words: ginkgo, warfarin, drug interaction, herbal medication, oral anticoagulant

Implementing Evidence-Based Antiemetic Guidelines in the Oncology Setting: Results of a 4-Month Prospective Intervention Study

Faulding Award
George Dranitsaris, Pauline Leung

Background: There is a considerable gap between randomized trials and implementing the results into practice. This is particularly relevant with the high-cost 5HT3 antiemetics. Randomized trial data suggest that they should be used as a single daily dose for only the first 24 hours following chemotherapy because they offer little benefit beyond this period. In this study, 6 intervention methods (i.e., multifaceted approach) were combined to change physician 5HT3 prescribing patterns in order to comply with evidence-based antiemetic guidelines.

Methods: A 6-step implementation process was adopted consisting of guideline dissemination, the use of opinion leaders, interactive educational workshops, therapeutic reminders in the form of pre-printed orders, clinical interventions by pharmacists for inappropriate antiemetic orders, and physician audit and feedback. Once implemented, the control of emesis was collected in all patients who were enrolled into the intervention program. Multivariable regression analysis was then used to assess if prescribing within antiemetic guidelines compromised patient care.

Results: A total of 195 in-patients were enrolled into the study over the 4-month intervention period. Overall, 88.7% of granisetron prescriptions fulfilled the guidelines with respect to appropriate indication, dosage, and duration of therapy. The multivariable analysis suggested that granisetron prescribing within guidelines did not compromise the control of acute and delayed emesis. In addition, patients who received evidence-based antiemetic therapy had a significant reduction in the severity of acute nausea (risk ratio = 0.69; $p = 0.03$).

Conclusion: The results of this guideline implementation study revealed that a pharmacist-driven multifaceted intervention program for high-cost agents such as 5HT3 antiemetics can promote their use in a clinically appropriate manner and can save unnecessary drug costs without compromising the quality of patient care.

Key words: 5HT3 antiemetics, guidelines, drug use evaluation, evidence-based medicine

Pharmacist Utilization of the DIE Test to Assess Aminoglycoside Vestibulotoxicity

GlaxoSmithKline Award
Karen Shalansky, Denise Carr, Fawziah Marra, Art Mallinson

Background: Aminoglycoside antibiotics can cause irreversible vestibulotoxicity, which has debilitating effects on balance and vision. The dynamic illegible E (DIE) test was developed to screen for signs of vestibulotoxicity and prevent permanent vestibular damage and is currently being conducted by the neurophysiologist.

Purpose: The primary goal of this study was to show that a pharmacist can perform the DIE test for vestibulotoxicity with equivalent accuracy to the neurophysiologist. The secondary goals were to determine the workload of conducting the DIE test and to correlate patient variables to vestibular toxicity.

Methods: All patients initiated on aminoglycoside therapy were screened over a 12-week period. All patients greater than 18 years of age and prescribed aminoglycoside therapy for more than 7 days were evaluated for DIE test administration. Patients were excluded if they were unable to sit up to perform the test, unable to read at least the top 4 rows of the test chart due to visual impairment or mental incompetence, had a language barrier without a translator available or had a medical contraindication to neck manipulation. Eligible patients were tested first by the primary investigator then retested by the neurophysiologist within 72 hours.

Results: Two hundred and thirteen patients were screened with 39 receiving aminoglycosides for more than 7 days. Fifteen patients were excluded due to medical condition or discharge from hospital before testing and 24 were tested by the primary investigator. The neurophysiologist was not able to retest 7 of these patients; therefore 17 patients were included in the analysis. There was 100% correlation between the results of the primary investigator and the neurophysiologist. There were no positive test results (score = 3), therefore no patients with vestibulotoxicity. No aminoglycoside doses were supratherapeutic and there were no changes in the baseline patient variables such as serum creatinine or blood urea nitrogen. The DIE test took less then 3 minutes to administer. On average, only 2–3 patients per week would require this test, resulting in a minimal increase in pharmacist workload.

Conclusion: A pharmacist can perform the DIE test with equivalent accuracy to the control tester and incorporate monitoring technique into the scope of their daily activities.

Do Canada's Hospital Pharmacy Management Personnel Have the Skills They Need? Results from a National Survey

GlaxoSmithKline Award
Neil MacKinnon

Background: Hospital pharmacy management personnel in Canada require a wide variety of skills. Most of their training, however, occurs on-the-job and there is little information on which specific managerial skills are essential in their positions.

Objectives: To identify: (1) pharmacy management skills deemed to be of high importance; (2) pharmacy management skills lacking in these hospital pharmacy management personnel, as determined by self-assessment; and (3) demographic characteristics associated with pharmacy management personnel who lack these skills.

Methods: A survey was developed and pilot tested in November 1999. The revised survey was mailed to 514 hospital pharmacy management personnel in Canada during July 2000. Two follow-up reminders were sent to non-respondents.

Results: The response rate was 52.7%. Out of the 61 specific managerial skills considered, the respondents identified "demonstrating ethical conduct" as both the most important skill and their greatest strength. "Understand the operating principles of managed care" was the least important skill needed, while "participating in the implementation of a marketing program" was their greatest weakness. There were significant differences in the mean self-assessed skill level of the respondents according to their educational background, size of the institution in which they work, and years of managerial experience.

Conclusions: This survey has identified training needs in hospital pharmacy management personnel that need to be addressed.

Comparison of Low Dose (1 µg) Cosyntropin and Conventional Dose (250 µg) Cosyntropin for Adrenal Insufficiency Testing in the Critically Ill

Merck Frosst Award
Sharon Yamashita, Jennifer Drynan

Purpose: To compare a low dose (1 µg) cosyntropin with conventional dose (250 µg) cosyntropin for relative adrenal insufficiency testing in the critically ill.

Methods: Fifty patients with either clinically suspected adrenal insufficiency or vasopressor support exceeding 24 hours were entered in this prospective, open-label crossover study. Subjects underwent sequential 1-µg and 250-µg cosyntropin testing, separated by 5 hours. Blood samples for cortisol analysis were drawn just prior to administration of cosyntropin and at 30 and 60 minutes after each dose.

Results: Baseline cortisol values for the 1-µg and 250-µg tests were not significantly different (paired t-test, $p = 0.82$). Cortisol levels at 30 and 60 minutes were both significantly different between the 2 tests (paired *t*-tests, $p < 0.01$). Using the 1-µg test, 28 patients were identified as having "abnormal" adrenal responses compared with 16 patients being identified with the 250-µg test (McNemar test, $p < 0.01$).

Conclusions: The results of this study demonstrate a difference between the identification of abnormal adrenal responses using a 1-µg and a 250-µg dose of cosyntropin. The 1-µg test may be a more sensitive test for the identification of relative adrenal insufficiency in the critically ill.

Key words: adrenal insufficiency, cosyntropin, critically ill

Patient Preferences in an Outpatient Parenteral Antibiotic Therapy Program

Novartis Award

Peter Jewesson, Any O. Wai, Carlo A. Marra, Luciana Frighetto

Objectives: To elicit treatment location preferences and willingness to pay from Outpatient Parenteral Antibiotic Therapy (OPAT) program candidates.

Methods: A multidisciplinary, single-centre, unblinded, prospective study at a 1000-bed Canadian adult tertiary care teaching hospital. This study involved a willingness to pay (WTP) questionnaire that was administered over a 9-month study period. Eligible and consenting patients referred to the OPAT program were asked to state their preference for treatment location and their willingness to pay for a hypothetical treatment scenario involving intravenous antibiotic therapy. Regression analysis was performed to determine predictors of response.

Results: Of 131 eligible patients, 87 completed the WTP questionnaire. The majority of participants were males, married, in their sixth decade of life and had a secondary school education or greater. The majority of participants were retired or they were employed with annual household incomes less than $60,000. Osteomyelitis was the most common type of infection for which parenteral therapy was required. Seventy-seven (89%) patients preferred treatment at home, while 10 (11%) patients preferred treatment in hospital. Eighty-three (95%) patients provided interpretable responses regarding WTP. Nine patients preferred treatment in the hospital (mean WTP Can$873, median Can$299, range Can$0–3000), while the remaining 74 patients preferred treatment in the home (mean WTP Can$820, median Can$460, range Can$0–6250). Income, gender, and treatment location were predictors of WTP.

Conclusion: This study reveals that treatment at home is preferred by adult inpatients receiving intravenous antibiotic therapy who are referred to our OPAT program. Income, gender and treatment location appear to predict their willingness to pay.

A Medication Teaching Video Series for Organ Transplant Recipients

Novopharm Award

Kathy Denesyk

Patient education regarding anti-rejection medication is an essential part of the organ transplant process. For patients to receive the greatest benefit from these medications with the fewest side effects and drug interactions, they must learn how to take these medications properly. It is the responsibility of the pharmacist in the transplant unit to provide patients with this information.

It was felt the existing medication teaching program was not meeting the needs of all patients; therefore a series of 5 videos was developed by the transplant pharmacist to complement the existing educational programs. Individual videos for each of the commonly prescribed immunosuppressants Neoral cyclosporine, tacrolimus, mycophenolate mofetil, prednisone, and azathioprine were produced. The process for developing the videos is described.

The videos are not meant to replace the transplant pharmacist, but to provide patients with an additional method for learning basic information about their medications. The videos may also be viewed by patients' families or other care givers. Additionally, the videos may be used for staff development. Other transplant centres in Canada have expressed an interest in using the videos. This is a unique project with numerous potential applications.

Key words: video, patient teaching, transplant, immunosuppressant, patient counselling, Neoral, cyclosporine, mycophenolate mofetil, tacrolimus, prednisone, azathioprine

Use of Oseltamivir during Influenza Outbreaks in Provincial Nursing Homes, 1999–2000

Pfizer Award

Susan K. Bowles

Objective: To describe the experience of provincial nursing homes that used oseltamivir during influenza outbreaks in the 1999–2000 influenza season.

Design: Observational descriptive study.

Setting/Participants: Ten provincial nursing homes for the elderly and their residents.

Intervention: Oseltamivir for treatment or prophylaxis during 11 influenza outbreaks in 1999/2000.

Measurements: Control of outbreaks, pneumonia, hospitalization, and death complicating acute influenza.

Results: All outbreaks were due to influenza A/H3N2/Sydney/05/97. One facility elected to use oseltamivir for treatment and amantadine for prophylaxis. The remaining 9 facilities (10 outbreaks) recommended oseltamivir for both treatment and prophylaxis (after amantadine failure in 5 and as primary prophylaxis in 5). Use of oseltamivir was associated with termination of the outbreak in all 8 evaluable outbreaks. Overall, 178/185 (96%) case-residents met the case definition of influenza and had complete data for evaluation. Of these, 63 (35%) were treated with antibiotics, 37 (21%) were diagnosed with pneumonia, 19 (11%) were hospitalized, and 16 (9%) died. Compared to residents receiving no therapy, or who developed illness while taking amantadine, residents who received oseltamivir within 48 hours of the onset of symptoms were less likely to be prescribed antibiotics, to be hospitalized, or to die ($p < 0.05$ for each outcome). These differences persisted and remained statistically significant when corrected for influenza immunization status. A total of 730 residents received oseltamivir prophylaxis for a median of nine days (range 5 to 12 days). Among these, side effects were identified in 30 (4.1%), the most common being diarrhea (12 residents, 1.6%), cough (5, 0.7%), confusion (4, 0.5%) and nausea (4, 0.5%).

Conclusion: Oseltamivir is safe and appears to be effective when used as treatment or prophylaxis to control outbreaks of influenza in elderly nursing home residents.

Development of a Tool to Assess the Geriatric Patient's Ability for Self-Medication

Pharmascience Award

Priti Flanagan, Debbie MacLeod

Background: Medication non-adherence is an important area of health research. Several methods for detecting non-adherence exist; however, there is limited research on predicting adherence rates.

Objectives: The objectives of this study were to develop a method to assess cognitive capability to self-medicate in geriatric patients who are functionally able and to determine whether this test is predictive of adherence.

Methods: Eligible participants were taught about their discharge medications using a medication calendar and then tested on the information provided using a scored questionnaire (T1). Participants also underwent the same procedure for a hypothetical medication scenario (T2). Within 2 weeks of hospital discharge, participants were visited at home, TI was re-administered, and a medication count was performed. Data analysis involved paired samples *t*-test and Pearson correlation.

Results: Twenty-one patients completed the study. Patients had significantly higher scores on TI compared to T2 ($p < 0.001$). Home test scores were significantly related to MMSE score ($p = 0.031$), complexity of medication regimens ($p = 0.004$), and T1 scores ($p < 0.001$). Adherence rates correlated with MMSE ($p = 0.012$).

Conclusions: The new assessment tool (T1) predicted a patient's cognitive understanding of their medication regimen following hospital discharge. Furthermore, MMSE scores may be useful in predicting medication adherence.

Key words: medication, adherence, compliance, assessment, pharmacist, geriatrics

Microbiological Validation of Sterile Preparation Procedures in a Pharmacy Department

Roche Award

Jean-François Bussières

Objective: The objective of this study was to identify factors that influence the sterility of the work area within barrier isolators and standard BSCs.

Method: This prospective study, conducted in a mother–child teaching institution, looked at the effects on the sterility of the work area by the following variables: the type of equipment (isolator or BSC), the day of the week, the time of the day, the sampling site, the operator, the type of product prepared, the effect of the primary cleaning procedure, and the degree of product-preparation activity.

Results: A total of 657 samples, 327 with the TSA agar and 330 with the SAD-B agar, were taken during a 20-day period from the equipment (4 isolators and one BSC). Thirty-three (5.0%) were positive: 24 with TSA and 9 with SAD-B. A total of 74 organisms were identified from these samples. Single-variable analysis demonstrated that the site of sampling, the type of samples, the schedules of production, and the type of equipment did contribute in explaining the observed positive growth. A logistic regression was performed.

Conclusion: Pharmacists are responsible for the optimal preparation of sterile products. The introduction of a new technology such as isolators requires us to adequately validate the microbiological environment. This study identified factors that influence the sterility of the work area in barrier isolators and in standard BSCs. Further studies are required to compare BSCs to isolators.

Key words: barrier isolators, standard biological safety cabinet, microbiological validation, sterility, contamination, IV preparations, pharmacy

A Comparison of 2 Dosage Regimens of Intravenous Vancomycin in Hemodialysis Patients

Schering Award

Curtis Harder, Stephen Shalansky, Joanne Jung, Andrea Lee

Background and Objective: There is currently no consensus on the optimum dosing regimen for vancomycin for patients receiving intermittent high-flux hemodialysis. Our objective was to compare the pharmacokinetic and clinical outcomes achieved by 2 commonly used vancomycin dosing regimens in this population.

Methods: We performed a prospective, randomized, unblinded study, in which patients, after receiving vancomycin 25 mg/kg as a loading dose, were randomized to receive either vancomycin 500 mg every dialysis (Q Dialysis regimen) or 20 mg/kg every second dialysis (Q 2nd Dialysis regimen) as a maintenance regimen. We compared the proportion of steady-state trough serum vancomycin concentrations using a target therapeutic range of 10–20 mg/L.

Results: Fifteen patients were included in our study (8 with Q Dialysis dosing and 7 with Q 2nd Dialysis dosing). At steady state, 5/7 and 4/5 serum levels in the Q Dialysis and Q 2nd Dialysis groups, respectively, were therapeutic. Five patients required dosage adjustments based on the protocol criteria (2 in the Q Dialysis group, 3 in the Q 2nd Dialysis group). No patients were withdrawn from either study regimen due to treatment failure.

Conclusions: Both study regimens appear to achieve similar pharmacokinetic as well as clinical outcomes; however, further patient enrollment and data collection are necessary before any conclusions can be made. The Q Dialysis regimen appears to be more practical and convenient to implement.

Key words: vancomycin, hemodialysis, dosing regimen, pharmacokinetic