MESSAGE FROM THE CHAIR
Lance Oyen, PharmD, BCPS, FCCM

Spring held a flurry of activities within the section, not to mention a flurry of untimely snows in May in Minnesota! All of our committees were into action as you will read within the newsletter.

You will notice many changes to the SCCM and CPP websites, but the CPP Section iRoom looks the same as before the website renovations. The website should now be more functional within many more platforms, such as mobility (phones, tablets), as well as standard computer browsers.

Our section has always generated very active submissions of abstracts, and we expect the same for the 43rd Critical Care Congress in San Francisco, January 9-13, 2014. You may sign into the iRoom and view last year’s CPP members’ posters, stored in the folder “Annual Congress Posters.” Online abstract submission is available for 2014 Congress until midnight September 3, 2013.

CPP also recognizes your research within two specific realms: Technology and Patient Safety. Both are detailed in the CPP Section iRoom, and if your research fits within either of these categories, be sure to submit requested information after abstracts are submitted. The awards are available to SCCM members employed in a hospital or health system, supporting a project which meets these goals:

- **Excellence in Using Technology to Improve ICU Medication Safety Award** recognizes a health system or individual incorporating state-of-the-art technology and innovative programs to maximize and improve medication safety. The goal of this award is to sensationalize the technology and medication safety improvements and to disseminate the objectives, methods, and outcomes used to achieve the innovation.

- **Innovations in ICU Medication Safety Award** recognizes a health system or an individual that designed a successful and novel program that minimizes medication errors and improves medication safety in the ICU. The goal of this award is to sensationalize the medication safety improvements and to disseminate the
objectives, methods, and outcomes used to achieve the innovation.

Two Visiting Clinical Professor proposals were awarded recently to Patricia Louzon (Florida Hospital Orlando) and April Miller Quidley (Vidant Medical Center, North Carolina). These both will be supported through CPP Section funds.

Critical Care Pharmacy Practice Model Task Force is new initiative this year, generated out of interest at last Congress’ strategic planning to offer our members tools to help advocate to their own directors of pharmacy on the various benefits critical care clinical pharmacists provide beyond the obvious benefits to patient care. The main objectives are to compile references and resources to support our practice and to identify key metrics and value-based factors measured and influenced by critical care pharmacists. You may contact either of the co-leaders of this taskforce, Phil Kuper and Garrett Schramm, for support or questions.

As always, I would like to hear from you and what CPP and SCCM means for you and your practice. Input, requests for involvement, and any recognition you would like to see occur for your fellow member(s) are all encouraged. Contact me at oyen.lance@mayo.edu.

CPP COMMITTEE CORNER

Communications Committee
Xi Liu-Deryke, PharmD, (Chair), and Deepali Dixit, PharmD (Chair-Elect)

This issue highlights a pharmacotherapy article examining antimicrobial administration strategies in the central nervous system infections, the Mentor-Mentee spotlight, and Member Spotlight. Thanks to everyone for their contributions!

As many of you may have noted while exploring the newly renovated SCCM and CPP websites, the past issues of CPP newsletters, links, and other valuable resources are missing. We are in the process of working closely with the Society to restore these key documents in the iRoom.

If you have any questions regarding membership in the Communications Committee or contributions you would like to make to the CPP Section newsletter, please contact Xi Liu-Deryke at xi.liu@orlandohealth.com or Deepali Dixit at deepali0420@gmail.com.

Education Committee
Aimée LeClaire, PharmD, BCPS (Chair), and Jorie Frasiolas, PharmD, BCPS (Chair-Elect)

Congratulations to all CPP Section members who presented a poster or platform presentation at the 2013 SCCM Critical Care Congress in San Juan! Electronic posters presented by members of the CPP Section are now available in our iRoom. To view the posters, please visit the committee documents along the left menu in the CPP Section iRoom. Of the 263 posters presented by CPP members, 188 are currently available as electronic posters and arranged in six files based on abstract number. If your poster is not currently posted in the iRoom, please email a PDF version to Janie Faris at jfaris@dmc.org.
The CPP Education Committee continues to partner with the Society on several key initiatives, including educational modules, a toolkit for protocol implementation, and journal club.

SCCM CPP Journal Club continues to be held the third Friday of every month at 2 pm EST; the next date is August 16. If you would like to receive the monthly notification and link to access the journal club session, please contact Karen Berger at kberger7@gmail.com or sccmcppjc@gmail.com.

Membership Committee
Jenni Morris, PharmD, BCPS, BCPS (Chair), and Laura Aykroyd, PharmD, BCPS (Chair-elect)

CPP Mentor-Mentee Program

The Mentor-Mentee Program provides CPP pharmacist members with guidance in a variety of areas such as clinical practice, research, teaching and SCCM/CPP involvement. Members are matched based on mentoring need, specialty practice area (e.g., emergency medicine, pediatrics, trauma, burn) and experience level. We continue to expand the demographics used to match individuals to make the pairing as beneficial as possible. All CPP Section members are welcome to participate in mentor and/or mentee capacity.

The Membership Committee is actively looking for mentors. We continue to need our more experienced CPP members to participate in this program. In addition, we highly encourage recently established practitioners to apply as mentors as the number of mentors needed for residents completing their PGY-2 is rapidly expanding.

All CPP members interested in serving as mentees are encouraged to contact us as soon as possible. Although there is no deadline to enroll in this program, members interested in the program are encouraged to apply early in the year to facilitate live interaction between mentors and mentees at annual pharmacy meetings (ACCP, ASHP, SCCM, etc.) and promote the development of a stronger professional relationship.

If you are interested or need additional information, please email either Jenni Morris (jmorris@iuhealth.org) or Laura Aykroyd (laykroyd@IUHealth.org) and indicate which role you are investigating. We look forward to working with everyone, and to the continued success of the program.

Patient Safety Committee
Eric W. Mueller, PharmD, FCCM (Chair), and Lisa Harinstein, PharmD, BCPS (Chair-Elect)

The Patient Safety Committee continues to work on two main research projects. The first is a national survey to evaluate standard cardiovascular medication infusion concentrations and rates. Katie Burenheide (Stormont-Vail HealthCare) is leading the project. Please watch for the survey in the upcoming months!

The second project is a multicenter, retrospective study evaluating drug-related admissions to the ICU. Please contact Jaclyn LeBlanc (jaclynleblanc@hotmail.com) or Eric Mueller (eric.mueller@uchealth.com) if you are interested in becoming a research site.
CPP Patient Safety Awards
Patient Safety Committee is seeking nominations and submissions for the *Excellence in Using Technology to Improve ICU Medication Safety Award* and *Innovations in ICU Medication Safety Award*. Please think of colleagues and groups, including you and yours, who have made relevant contributions to patient safety and are interested in being considered for recognition and an SCCM tuition award. The award descriptions and application are attached. Please contact Eric Mueller (eric.mueller@uchealth.com) with questions.

Program Committee
Joseph Aloi, PharmD, BCPS (Chair), Moo Sultan, PharmD, BCPS (Chair-Elect)

Visiting Clinical Professor Program
The Program Committee would like to recognize CPP Section members Patricia Louzon, PharmD, BCPS, at the Florida Hospital Orlando in Orlando, FL, and April Miller Quidley, PharmD, BCPS, at Vidant Medical Center in Greenville, NC, as recipients of the 2013 Visiting Clinical Professor awards. The Florida Hospital Orlando is looking to expand pharmacy services in the emergency department; and Vidant Medical Center is working to expand pharmacy services to additional critical care areas. We look forward to hearing more about their experiences with their respective "professors."
Applications for this program are being accepted for 2014! CPP members interested in advancing the area of critical care practice at their institutions are encouraged to apply. For more information, please contact Joe Aloi (joseph.aloi@vtmednet.org) or Moo Sultan (smsultan@unch.unc.edu).

Pharmacy Year-in-Review
The Program Committee is happy to announce the topics for the 2014 SCCM Congress Pharmacy Year in Review:
- Substance Withdrawal
- Care of the Critically Ill Transplant Patient
- Toxicology

We look forwarding to hearing the latest and greatest in these areas in San Francisco!

Ongoing efforts for the committee include the CPP Pre-Congress Symposium and organizing the CPP member reception to be held at Congress. Further information regarding these events will be in the next CPP newsletter!
If you would like further information and/or to join the Program Committee, please feel free to contact Joe Aloi (joseph.aloi@vtmednet.org) or Moo Sultan (smsultan@unch.unc.edu).

Research Committee
*Seth Bauer, PharmD, (Chair), and Erin Frazee, PharmD (Vice-Chair)*

It’s an exciting time for the CPP Research Committee! We continue to work hard on facilitating CPP member-initiated research and collaboration, growing member research skills and
confidence, and elevating the caliber of work performed through proactive peer review. A couple of recent highlights are as follows:

**Peer review:** The peer pre-review process has expanded. In addition to proposals, manuscripts, and grants, we now are reviewing section policy documents, toolkits, and guidelines. We’ve also reached out to individuals who have taken advantage of these services and received great feedback. Specifically, one member stated, “The pre-review service exceeded my expectations. I formed professional relationships with the reviewers that led to them serving as co-investigators on a new project. This service is invaluable!” Comments like these are a testament to the hard work of CPP members and research outreach going on within the committee.

**Literature updates:** With the help of great networking and dedication, we’ve developed and submitted a Critical Care Pharmacy year-in-review manuscript for peer review. This document represents a thorough compilation and assessment of key articles summarized in the 2012-2013 updates.

**Membership database:** Do you want to do a multicenter study on oral anticoagulant reversal or find out how other hospitals like yours are approaching sepsis bundles? The CPP Research Committee annually updates the member database and stores it in the iRoom so you can do just that. It’s a great way to connect people with similar interests and foster collaboration across the section.

Please explore the new website platform and take advantage of the other services and resources accessible in the iRoom.

If you would like further information and/or to join this committee, please feel free to contact Seth Bauer (bauers@ccf.org) or Erin Frazee (frazee.erin@mayo.edu).

**Breaking Barriers: Antimicrobial Administration Strategies in Central Nervous System Infections**
*Kathryn DeSear, PharmD, BCPS; Jessica Cope, PharmD; Jennifer Bushwitz, PharmD*

The blood brain barrier (BBB) remains a major obstacle for drug delivery into the central nervous system (CNS). With increasing rates of multidrug resistant bacteria, achieving optimal drug concentrations at the site of infection is important. CNS infections, including meningitis, ventriculitis, spinal and intracranial abscesses, are often difficult to eradicate with systemic antibiotics. Attaining pharmacodynamic targets via systemic delivery is hindered by two physiologic barriers, the BBB and the blood-cerebrospinal fluid barrier (BCSFB). The BBB is a complex endothelial barrier lining CNS microvessels that segregates circulating blood from extracellular fluid, while the BCSFB acts as a similar barrier but is established by the epithelial cells of the choroid plexus.\(^1\,^2\) Intrathecal and intraventricular routes of administration have the potential to overcome the limitations of systemic therapy, but give rise to unique challenges and considerations.

Both large and small molecules have difficulty penetrating the tight junctions of the BBB in the absence of meningeal inflammation. This presents early in the infectious disease process and greatly enhances drug penetration by compromising the tight junctions of the BBB.\(^3\,^4\) Even in the presence of inflammation, drug entry into the CNS may be limited. Molecular size, protein-
binding, affinity for active transport proteins, and degree of lipophilicity are drug properties that
play a significant role in CNS penetration. Vancomycin, a glycopeptide, is well known for its high
molecular mass, resulting in limited cerebrospinal fluid (CSF) concentrations when administered
systemically. Plasma protein binding strongly influences drug penetration into the CSF, as
bound drug is unable to freely penetrate the BBB secondary to sheer size. Drug affinity for
active transport systems, specifically efflux transporters, can lead to decreased CSF drug
concentrations and treatment failure. Due to the composition of the lipid cell membranes
surrounding the CNS, the lipophilicity of a compound increases its ability to traverse these
membranes. Conversely, hydrophilic agents directly administered into the CSF become
trapped, unable to redistribute back into the vasculature. Direct antimicrobial administration into
the CSF bypasses the aforementioned barriers and may be able to overcome suboptimal
antimicrobial concentrations encountered with systemic administration.

Intrathecal and intraventricular administration of antibiotics are two direct routes of drug
administration into the CSF. Intrathecal administration consists of drug delivery into the lumbar
cistern, a large pocket of CSF located in the lower lumbar spine. This can be achieved via a
lumbar puncture or placement of a temporary catheter. In the case of antibiotic administration,
placing a temporary catheter may be preferred as individual punctures performed for each
administration have the potential for serious consequences, such as infection, cutaneous-CSF
fistulae, nerve damage, or intraspinal hemorrhage. Intraventricular administration is
accomplished by directly instilling drug into the lateral ventricles. Similar to intrathecal
administration, temporary catheters, also known as ventriculostomies or endoventricular devices
(EVDs), may be accessed for direct administration into the CSF. Ventriculostomies are
generally placed for indications outside of infectious processes but have been utilized for
antimicrobial administration. Intraventricular administration of drug is usually followed by
clamping the catheter for at least 15 minutes to allow adequate drug exposure. Disease states
in which ventriculostomy clamping would lead to significantly increased intracranial pressures
could pose a challenge to drug delivery because cessation of CSF drainage may be detrimental
to the patient.

Careful consideration during the drug selection and preparation process is required to ensure
safe administration of medications directly into the CSF. Physiochemical drug properties,
including pH, osmolarity, presence of preservatives and diluents, and intrinsic neurotoxicity,
affect the utility of the intraventricular and intrathecal routes. Drug pH must be accounted for
when selecting an agent as the CSF lacks the buffering capacity of the vasculature and is more
sensitive to small changes in pH. Ultimately, alterations in CSF pH may lead to detrimental
effects on brain tissue and cell function. Hyper- and hypo-osmolar fluids each pose problems,
including dipsogenesis, syndrome of inappropriate antidiuretic hormone, and cerebral edema.
The osmolarity of CSF is approximately 281 mOsm/L, with solutions ranging from 230 to 330
mOsm/L generally considered isotonic. Further, preservative-free drug formulations are
strongly recommended secondary to preservative-related neurotoxic adverse effects observed
in animal models. Aside from preservative containing formulations, the epileptogenicity of
compounds must also be considered with agent selection. The utility of such agents as beta-
lactams and fluoroquinolones is ultimately futile as the epileptogenic risk outweighs any possible
benefit.

Total drug volume is also an important consideration. Because of the rigid structure of the skull,
any increase in CSF may lead to an intolerable rise in intracranial pressure. Secondary to this
concern, small volumes are required for intrathecal or intraventricular drug administration. The
average adult cranial and spinal space holds approximately 140-160 mL of CSF, with 50%
located within the ventricles. Production of CSF occurs within the choroid plexus at an
estimated rate of 0.3 mL/min. To date, definitive recommendations are lacking regarding maximum rate and volume of administration. However, instilling small volumes (less than 3 mL) over 1 to 2 minutes appears to be safe. Slow instillation of drug is preferred to prevent rapid displacement of extracellular fluid, thereby decreasing the risk of tissue damage. Due to the technical aspects of intrathecal and intraventricular administration, involvement of a neurosurgical specialist is strongly recommended to ensure appropriate drug administration and proper management of invasive devices.

Although intraventricular and intrathecal administration of antibiotics has been described and even suggested in CNS infections, most data have stemmed from retrospective case series or case reports. Available data describing antimicrobial agent selection, dosing regimens, and clinical outcomes are summarized in the table below. Direct administration of antimicrobials has been shown to be safe and effective providing the risks are weighed against the potential benefits. As previously mentioned, numerous factors must be accounted for prior to initiating intrathecal or intraventricular drug administration. Also important is the involvement of a neurosurgical specialist to assist in the technical aspects in management of invasive devices. Pharmacists must be vigilant with these unique orders, making sure antimicrobial dosing, preparation, and administration instructions are transparent and properly communicated to all parties involved. When utilized for CNS infections, direct administration provides an adjuvant to systemic therapy for difficult-to-treat pathogens and can improve outcomes while maintaining a relatively low risk to the patient when preformed properly.
### Experience with Intrathecal / Intraventricular Antimicrobials

<table>
<thead>
<tr>
<th></th>
<th>Route</th>
<th>Targeted Pathogens</th>
<th>Common IVT / IT Dosing (Range)</th>
<th>Duration IVT / IT (days)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| **Vancomycin^7^10** | IVT ± IV  | *Staphylococcus aureus*  
Coagulase-negative *Staphylococcus*  
*Propionibacterium*  
*Streptococcus sanguis*  
*Enterococcus faecalis*  
*Listeria monocytogenes* | 10 mg (5-50 mg) q24h | 3 - 38                         | IVT VAN appears to be safe; no adverse effects were directly attributable to IVT VAN therapy  
IVT VAN appears to be effective in achieving bacteriological sterilization and clinical cure  
Utility of TDM is debatable |
| **Daptomycin^11**    | IVT + IV  | *Enterococcus faecalis*                                                            | 5 mg (5-10 mg) IVT^† q72h      | 14 - 28                   | IVT DPT sterilized CSF even after IVT VAN could not  
No adverse effects reported |
| **Aminoglycosides^12^17** | IVT / IT ± IV | *Acinetobacter* spp.  
*Citrobacter* spp.  
*Escherichia coli*  
*Enterobacter* spp.  
*Klebsiella pneumoniae*  
*Pseudomonas* spp.  
*Serratia marcescens*  
*Stenotrophomonas maltophila* | AMK: 20 mg (10-50 mg) q24h  
GEN: 5 mg (4-10 mg) q24h  
TOB: 5 mg (1-5 mg) q24h | AMK: 3 - 27  
GEN: 3 - 21  
TOB: 28 | Significantly higher cure rate in patients receiving IVT / IT + IV vs IV monotherapy  
AMGs were observed to be rapidly bactericidal leading to rapid CSF sterilization  
Tonic-clonic seizures observed with IVT / IT AMK therapy |
<table>
<thead>
<tr>
<th>Drug</th>
<th>Route</th>
<th>Pathogens</th>
<th>Dose (CM)</th>
<th>TDM Range (d)</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Colistimethate[^18]  ^21                   | IVT / IT ± IV      | *Acinetobacter baumannii*                                                 | 10 mg (1.6–20 mg) q24h | 3 - 42       | Median time to CSF sterilization 4.1 d  
Adverse effects included ventriculitis, seizures, neurologic disorders  
Time to sterilization was shorter in the IT compared to IVT group |
| Colistimethate[^2]/ Polymyxin B[^22-24]    | IVT / IT ± IV      | *Pseudomonas aeruginosa*  
*Acinetobacter baumannii*  
*Klebsiella pneumoniae*  
*Klebsiella aerogenes*  
*Escherichia coli*  
*Neisseria catarrhalis*  
*Aerobacter cloacae*  
*Moraxella glucidolytica*  
*Haemophilus influenzae* | 5 mg (1.6–20 mg) q24h | 7 – 63       | Clinical cure rates were best in *Acinetobacter* and *Pseudomonas* infections  
Majority of *Klebsiella* infections had clinical cure  
Toxicity in a relatively small proportion of patients, dose-dependent, and reversible |
| Amphotericin B deoxycholate[^25-27]        | IVT / IT ± IV      | *Cryptococcus neoformans*                                                 | 0.01 – 0.5 mg q24h[^†] | Unspecified | Lower mortality and higher rates of CSF sterilization in IVT group  
Adverse reactions included ventriculitis, tinnitus, and clogging of Ommaya reservoir |
|                                           |                    | *Aspergillus spp.*                                                       | 0.1 mg twice weekly – 0.2 mg q24h[^†] | “Few” - 180 | Use concurrent with surgical intervention  
No long-term side effects or neurologic sequelae but clogging of Ommaya required cessation |
|                                           |                    | *Rhizopus oryzae* (mucormycosis)                                         | 0.5-0.66 mg q48h[^†] | 83           | Use concurrent with surgical intervention  
Adverse effects included nausea/vomiting |

ADE—adverse drug event; AMGs—aminoglycosides; AMK—amikacin; CM—colistimethate sodium; COL—colistin; CBA—colistin base activity; DPT—daptomycin; GEN—gentamicin; IV—intravenous; IT—intrathecal; IVT—intraventricular; TDM—therapeutic drug monitoring; TOB—tobramycin; VAN—vancomycin; †administered via Ommaya reservoir for some part of dosing regimen; $400 mg colistimethate sodium = 150 mg colistin base activity = 5 million IU colistimethate sodium.


20. Ng J, Gosbell IB, Kelly JA, et al. Cure of multiresistant Acinetobacter baumannii central nervous system infections with intraventricular or intrathecal colistin: case series and


CPP Member Spotlight: Kathryn Connor, PharmD, BCPS, BCNSP

*Payal K. Gurnani, PharmD, BCPS*

"Deciding to pursue a career in pharmacy was definitely one of the best professional decisions I have ever made." – Kathryn Connor

Kathryn Connor practices as a clinical pharmacist in the surgical intensive care unit (SICU) at The University of Rochester Medical Center (URMC). As an integral member of the ICU team, Kathryn provides pharmaceutical care for approximately 15-20 patients a day in collaboration with various other disciplines.

Kathryn’s love for science and the opportunity to shadow a clinical pharmacy specialist early on in college sparked her interest in the field of pharmacy. From there, she began to explore various pharmacy doctorate programs and found the best fit at Wayne State University in Detroit, Michigan.

As a pharmacy student, Kathryn was able to rotate through various ICU settings. She enjoyed the challenge and dynamics of this specialty area and the responsibility and satisfaction of helping to manage pharmacotherapy for the most vulnerable and complicated patients. Following completion of pharmacy school, Kathryn went on to pursue residency training at
Johns Hopkins Hospital in Baltimore, Maryland, followed by a specialty residency in critical care at The Regional Medical Center at Memphis, Tennessee.

In addition to her clinical specialist responsibilities at URMC, Kathryn holds a tenure-track position in the Pharmacy Practice Department at St. John Fisher College (SJFC) Wegmans School of Pharmacy (WSOP). Her teaching responsibilities both on- and off-site include the precepting of introductory and advanced-practice pharmacy students, as well as PGY-1 and PGY-2 residents; lecturing of medical students, pharmacy students, and house staff in the SICU; and formal lecturing at the School of Pharmacy. As the American College of Clinical Pharmacy (ACCP) Liaison for WSOP, Kathryn has been actively helping to prepare for the 2013 Clinical Pharmacy Challenge.

Kathryn’s research endeavors include recent publication of her residency project, “Resolution of clinical and laboratory abnormalities after diagnosis of ventilator-associated pneumonia in trauma patients.” She is involved in a study exploring the application of the Stewart acid-base principles in SICU patients undergoing IV diuresis. In addition, she is engaged in various CPP Section studies and ACCP studies.

Kathryn has been an active member of the Society of Critical Care Medicine (SCCM) since 2007 with involvement in several CPP committees, including past-chair of the Communications Committee and current member of the Membership Committee and Online Learning and Education Committee. She has participated as a Congress abstract reviewer. As a previous mentee and a current mentor, Kathryn recognized the value of the program and wanted to support it by giving back. She has felt that the program offers both support and guidance to residents during a challenging year of postgraduate training, insight and perspective into available opportunities, and satisfaction with trying to help a newer colleague, among other benefits.

Recent honors and awards include the SCCM Presidential Citation and participation in the SJFC Faculty Scholarship Celebration and the WSOP Scholarly Roundtable.

Striving to maintain a healthy work-life balance, Kathryn enjoys spending time with her husband and 2-year-old daughter. She also loves animals and nature, various intellectual and cultural pursuits, and travel within the U.S. and abroad.

**Mentor-Mentee Spotlight**

*Darlene Chaykosky, PharmD, BCPS*

This month’s Mentor-Mentee Spotlight features Sara Stahle and, her mentor, Rob MacLaren. Dr. Stahle obtained her degree at the University of Colorado and then completed a PGY-1 pharmacy practice and PGY-2 critical care residency at the University of Arizona. She is currently the clinical pharmacy specialist in critical care at Pennsylvania Hospital, a community teaching hospital, in Philadelphia, Pennsylvania. Her primary responsibilities include rounding with the medical ICU team, precepting PGY-1 pharmacy practice residents, and participating in critical care policy development and interdisciplinary committees. Her research interests include analgesia/sedation, sepsis, nephrology, toxicology, and pharmacoeconomics.

Dr. Stahle learned about the CPP Mentor and Mentee Program from her PGY-2 residency program preceptors and program director, who had been involved in the program. She had been thinking about becoming involved in the program to help her transition from a pharmacy resident to a clinical practitioner. When she accepted a position to establish new critical care pharmacy services at Pennsylvania Hospital, she felt it would be the opportune time to take
advantage of the program. She hoped that connecting with someone with similar experience would help guide her through the process of establishing an ICU pharmacy service, as well as other aspects of professional development such as precepting, research, and organizational involvement.

Dr. Stahle’s mentor, Dr. MacLaren, happened to be one of her professors in pharmacy school. She was thrilled to learn she was paired with him in the Mentor and Mentee Program because he had many years of career experience to share with her.

Dr. MacLaren obtained a bachelor of science degree in pharmacy from the University of British Columbia, followed by a post-baccalaureate pharmacy doctorate from the University of Utah. He then completed a critical care residency at Baptist Memorial Hospital/University of Tennessee in Memphis. He currently splits his time between clinical practice, teaching, and scholarship in the medical ICU at University of Colorado Hospital. His research interests include comparative studies of prokinetic agents for facilitating gastric emptying, as well as exploring cost-effectiveness models in an attempt to prove the value of clinical pharmacy services in the care of the critically ill. He also recently completed two randomized studies of dexmedetomidine -- one for sedation and one for ethanol withdrawal. His future research interests include stress ulcers and evaluating psychosocial patient outcomes after ICU discharge.

Dr. MacLaren first heard about the Mentor and Mentee Program during a CPP business meeting at the annual SCCM Critical Care Congress and was involved with the program from the very beginning. He had previous experience advising newer practitioners, so this program was aligned with what he already enjoyed doing. Through the years, Dr. MacLaren continued to volunteer in the program for several reasons. He has nearly 20 years of pharmacy experience to share with newer practitioners — from the trials and tribulations of establishing a practice to dealing with institutional/academic politics and balancing work and life. He hopes to engage new practitioners since they are the future leaders of critical care pharmacy. Through the process, Dr. MacLaren also enjoys learning from the mentees as much as they enjoy learning from him.

Dr. Stahle and Dr. MacLaren communicate by telephone or e-mail on a monthly basis, more frequently when issues arise. Since they both practice in the medical ICU, they are able to discuss issues specifically related to this area of critical care. They talk about establishing clinical pharmacy services, precepting, managing and training others, scholarly ideas, and additional education and training opportunities. In particular, Dr. Stahle has an interest in pursuing a master degree and Dr. MacLaren, who is currently completing his, has been a helpful resource.

Overall, their experience through the Mentor and Mentee Program has been rewarding for both Dr. Stahle and Dr. MacLaren. Dr. MacLaren has been able to reconnect with his former student and observe her growth and success. Dr. Stahle has received invaluable feedback and guidance on a variety of professional issues. Most importantly, both have gained a colleague as they continue to advance the profession of critical care pharmacy.

Anyone interested in participating as a mentor or mentee in this CPP program may contact Jenni Morris (jmorris@iuhealth.org) or Laura Aykroyd (laykroyd@iuhealth.org).

Communications Committee members are charged with publishing the newsletter.
Thanks to the following members:

Xi Liu-Deryke (Chair)  Garrett Curtis  Julie Kalabalik  Katie Muzevich  
Deepali Dixit (Vice-Chair)  Stephanie Davis  Katarzyna Kimborowicz  Mona K. Patel  
Amy L. Dzierba (MAL)  Diana Esaian  Simon Lam  Joanna Stollings  
Kim Berger  Stacey Folse  Jim Landzinski  Calvin Tucker  
Darlene Chaykosky  Payal K Gurnani  Aimee LeClaire  
Jessica Crow  Tudy Hodgman  Jason Makii  

**Upcoming SCCM Congress Meetings – Save the Date!**

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>January 9-13</td>
<td>San Francisco, California</td>
</tr>
<tr>
<td>2015</td>
<td>January 17-21</td>
<td>Phoenix, Arizona</td>
</tr>
<tr>
<td>2016</td>
<td>February 20-24</td>
<td>Orlando, Florida</td>
</tr>
</tbody>
</table>