Anticoagulant Management Services and Direct Oral Anticoagulants: Is There a Future for Pharmacist-Run Anticoagulation Clinics?
LT Sean Navin, PharmD, PhC, BCPS, USPHS, Pharmacist, Albuquerque Indian Health Service

Background: Patients receiving anticoagulation with warfarin normally attend an anticoagulation clinic run by a pharmacist, nurse, or other health care professional. The advent of direct oral anticoagulants (DOACs) has improved convenience for patients by eliminating the need for regular office visits and lab monitoring. This advantage arguably obviates the need for pharmacist-run anticoagulation clinics; however, patients taking DOACs still benefit from close monitoring and follow-up.

Methods: The anticoagulation management service at the Indian Health Service in Albuquerque, NM has offered rivaroxaban to patients since September of 2016. All patients who receive rivaroxaban are still managed by the pharmacist-run anticoagulation clinic. Patients receive initial education on the DOAC and are then followed up over the phone every 3 months to assess adherence and signs and symptoms of bleeding.

Results: Since DOAC treatment has been available, 55 patients have received anticoagulation. 35 received warfarin while 20 received rivaroxaban. Nearly 70 percent of patients who received warfarin could have received rivaroxaban.

Conclusion: DOACs offer improved convenience for patients while maintaining effective anticoagulation. Most patients still taking warfarin at the Albuquerque IHS are eligible to convert to rivaroxaban. Pharmacist-run anticoagulation clinics still play an important role in patient care and pharmacists should continue to monitor patients receiving DOACs.

At the end of this session attendees will be able to:

- Describe the major advantages of DOACs over warfarin.
- Name three reasons why pharmacist-run clinics should continue to monitor patients taking a DOAC.
- Identify the major limitations of DOACs for patients requiring anticoagulation.

Implementation of a Pharmacy-Run Contraception and Sexually-Transmitted Infection (STI) Clinic at Phoenix Indian Medical Center (PIMC)
LCDR Thalia Vega, PharmD, BCACP, USPHS, Clinical Pharmacist and Residency Preceptor, Phoenix Indian Medical Center; LT Hilary Boles, PharmD, USPHS, Clinical Pharmacist and PGY1 Resident, Phoenix Indian Medical Center
Unintended pregnancy and sexually transmitted infections (STI) are significant public health problems in the United States. The ability to access health services has a profound effect on health outcomes. Pharmacists can play a dynamic role by bridging the gap of access to care and preventative services to help improve public health. The objective of this quality improvement project is to implement and describe the impact of a pharmacist-run contraception and sexually transmitted infection (STI) clinic and assess patient attitudes towards pharmacists as contraception and STI providers. To assess patient attitudes towards the pharmacist-run contraception and STI clinic, a confidential, previously validated satisfaction survey at PIMC will be offered to every patient who receives care from the clinic. Patients will not be required to complete the survey.

At the end of this session attendees will be able to:

- Describe the implementation of a pharmacist run contraception and STI clinic.
- Describe the impact of a pharmacist run contraception and STI clinic.
- Identify the barriers to the implementation of a pharmacist run clinic and the future direction of pharmacists in women’s health care.

2:30 pm -- 3:00 pm

**Pharmacist Provider Status Coming to a State Near You: Are you Ready?**

CDR Jinny Meyer, PharmD, BCACP, NCPS, USPHS, Pharmacist, Indian Health Service

Discuss and educate attendees of the PHS Pharmacist Provider Status Workgroup. I plan to share the innovative grassroots projects and how other may become involved locally.

At the end of this session attendees will be able to:

- Define and discuss pharmacist provider status.
- Identify steps to prepare for provider status at their service unit.
- Define and discuss the statewide collaborative protocols and their role in provider status.

3:00 pm -- 3:30 pm

**Utilizing Pharmacist Comprehensive Collaborative Practice Agreements within the Incarcerated Patient Population to Promote Advanced Clinical Pharmacy Services**

LCDR Richard Cutlip, PharmD, MBA, NCPS, USPHS, Chief Pharmacist, Bureau of Prisons - Federal Correctional Complex (FCC) Coleman; LT Marcia Fields, PharmD, NCPS, USPHS, Staff Pharmacist, Bureau of Prisons - Federal Correctional Complex Coleman

Utilizing four pharmacists with Comprehensive Clinical Practice Agreements in diabetes, hypertension, dyslipidemia, asthma/COPD, and anticoagulation, the pharmacy program will demonstrate the value of and need for the expansion of advanced clinical pharmacy services. By utilizing BOP National Performance Measures, BOP medical and medication cost data, and Professional Clinical Practice Guidelines, patients of greatest need will be identified. Barriers to implementation of advanced clinical pharmacy services will be identified and overcome through improved prescription filling efficiencies, establishment of Comprehensive CPAs, and clearly defining the pharmacist role within the Patient Care Team. Evidence of improved patient outcomes and decreased costs will be presented to the Executive Staff and policy makers with the goal of further expanding advanced clinical pharmacy services to improve overall efficiency and effectiveness of the greater healthcare system.
At the end of this session attendees will be able to:

- Identify factors for patient selection that will achieve the most measurable impact from utilizing clinical pharmacy services.
- Report outcomes that justify reallocation of resources and expansion of clinical pharmacy services.
- Describe strategies for overcoming barriers and implementing services.

3:30 pm -- 4:00 pm

**Hepatitis C Treatment Outcomes in the Bureau of Prisons**
LCDR Katrina Kiang, Pharm.D, USPHS, Pharmacist, Bureau of Prisons

The Hepatitis Clinical Pharmacist Consultant program has been in place in the BOP since 2011. Treatment paradigms have evolved from peginterferon and ribavirin with 40-60 percent success rate to the current direct-acting antivirals with over 90 percent success rate. This improved safety and efficacy has revolutionized the landscape of hepatitis C treatment, helping to improve access to treatment in the cost-constrained environment of federal healthcare, particularly in the high-risk population of incarcerated inmates. Treatment criteria have expanded and will continue to expand, and the use of Regional Pharmacy Consultants to address the nonformulary requests and monitor patients on treatment has provided accuracy and consistency of treatment.

At the end of this session attendees will be able to:

- Describe the role of pharmacists in hepatitis C treatment in the BOP.
- Identify the impact and patient outcomes due to pharmacist involvement.
- Identify the scope and evolution of treatment in the BOP.

4:00 pm -- 4:30 pm

**Polypharmacy: A Systematic Review on the Risks and Management of Concomitant Opioid and Benzodiazepine Use**
Kassie Pfluger, MPH, Student Pharmacist, University of North Texas System College of Pharmacy; Annesha White, PharmD, MS, PhD, Assistant Dean for Assessment and Assistant Professor Department of Pharmacotherapy, University of North Texas System College of Pharmacy

In opioid users, the concomitant use of a benzodiazepine medication is associated with an increased risk of adverse reactions and overdose due to the synergistic effects on sedation and respiratory depression. The degree to which adverse events and overdoses occur is unclear when assessing patient characteristics, dosage and formulation. The objective of this study was to review the literature on the incidence and prevalence of an adverse event or death after concomitantly taking an opioid and benzodiazepine prescription medication and to assess the impact on the formulation, dosing, or administration of the medication in overdose.

Following PRISMA guidelines, a review of the literature was performed using the following databases: PubMed, PsycINFO, the Cochrane Library, and Scopus for peer-reviewed journal articles in English to identify studies regarding concomitant benzodiazepine and opioid medication overdose in adolescents and adults for non-cancer pain August 2006 through December 2017. Articles were excluded from the review if concomitant use of benzodiazepine and opioid analgesic was not clear or intentional suicide was indicated as the cause of mortality. Key search terms utilized were: opioid analgesic,
benzodiazepine, non-cancer pain, substance-related disorders, polypharmacy, co-prescribing, illicit use, and overdose.

The prevalence of opioid and benzodiazepine misuse and abuse has warranted international attention due to the increased overdose risk with concomitant use. More information is needed regarding dosing, formulation, and particular agent for opioids and benzodiazepines.

At the end of this session attendees will be able to:

- Determine the prevalence of concomitant opioid and benzodiazepine misuse in adults by medication and dosage form.
- Explain the specific impact of polypharmacy when considering formulation and dose.
- Elucidate risk factors associated with misuse and abuse.

**Thursday, June 7**

10:00 am – 10:30 am

**Leading the Way: Leadership Pearls from Pharmacist-Led Cg Mobile Medical Unit Responses to the 2017 Hurricanes**

CDR Justin Eubanks, PharmD, USPHS, USCG District 8 Regional Pharmacy Executive, US Coast Guard Aviation Training Center; LCDR Jacklyn Finocchio, PharmD, NCPS, USPHS, US Coast Guard District 14 Regional Pharmacy Executive, USCG Training Center Petaluma

During the 2017 hurricane season the coast guard family was not immune from the severe impacts of hurricanes Harvey, Irma, and Maria. For the first time ever, pharmacists deployed with the coast guard's mobile medical unit and served as overall medical team leader for 2 of the deployments. This presentation will review mission challenges and discuss lessons learned from a pharmacist's perspective.

At the end of this session attendees will be able to:

- Review mission objectives and provide data on patient encounters and medical needs from 3 deployments to Florida and Puerto Rico.
- Review and identify challenges encountered while deployed including the areas of supply/logistics and managing downtime expectations.
- Review and describe the pharmacist's role as med team lead in the broader ICS response structure.

10:30 am – 11:00 am

**ASPR Logistics: Ensuring Pharmacy Capability during Hurricane Maria Disaster Response**

LCDR Garrette Martin-Yeboah, PharmD, MPH, BCGP, PMP, USPHS, National Clinical Pharmacist Consultant, Office of the Assistant Secretary for Preparedness and Response/Office of Emergency Management/Division of Logistics

The Assistant Secretary for Preparedness and Response (ASPR), Office of Emergency management is responsible for the deployment of both personnel and other resources during disaster response. The Division of Logistics houses the ASPR National Clinical Team which is comprised of a multidisciplinary team of professionals tasked with ensuring the appropriate and evidenced based practices are utilized to ensure the safety and well-being of both deployed responders as well as members of the affected community. During this presentation, the National Clinical Team pharmacist will expound on that role
as well as various aspects of the ASPR’s disaster management approach. This discussion will include how medications and pharmacy supplies are pre-staged, tracked and made available to deployed responders in various pharmacy settings. Participants will understand how various agencies and response organizations work together to aid communities affected by disasters.

At the end of this session attendees will be able to:

- Identify what steps must occur to initiate the activation of disaster response and related ASPR pharmacy resources.
- Describe the benefits of an evidence-based pharmacy in the disaster management approach to population health for both responders and community members.
- Highlight the components of pharmacy response with pictures and details from the recent Hurricanes response, including first-hand information from deployment to Puerto Rico for Hurricane Maria.

1:45 pm -- 2:15 pm

Smoking and Medication Adherence Among a Group of Formerly Homeless Individuals who have Mental Health Symptoms
Jonathan Moore, MPH, BA, PhD Student, UNT Health Science Center

Background: The current study utilized a sample of permanent supportive housing (PSH) residents in Ft. Worth, TX who were participating in a health coaching program. It was hypothesized that people who smoked would have more difficulties adhering to their medication regimens.

Methods: Data were from m.chat, a technology-enhanced health coaching program for PSH residents with mental health symptoms. Data from November 2014 - March 2017, which consisted of 567 participants, were included.

Results: Medication adherence was similar between smokers and non-smokers (aOR: 0.78, 95% CI: 0.41, 1.49). However, drug abuse was significantly associated with medication adherence; people who reported consuming any illicit drug or abusing a prescription medication in the past 90 days had 73% lower odds (aOR: 0.27, 95% CI: 0.12, 0.65) of adhering to medications compared to those who reported no drug abuse.

Conclusions: Smokers and non-smokers had similar rates of medication adherence. Although smoking was not associated with medication adherence, other forms of substance use were related to a poorer medication adherence. This research highlights the role of illicit drug use in predicting medication adherence; programs that attempt to improve rates of medication adherence should take drug use into account as a key predictor of compliance.

At the end of this session attendees will be able to:

- Identify a modifiable risk factor for medication inadherence.
- Apply findings to other similar populations.
- Describe the relationship between smoking and medication adherence in this population.

2:15 pm -- 2:45 pm
Pharmacists Improve HIV/AIDS Outcomes
LCDR Jessica Fox, PharmD, AAHIVE, RAC, USPHS, Senior Public Health Analyst, Health Resources and Services Administration

Pharmacists serve in a critical role providing patient care and support, especially for patients with complex diseases and co-morbid conditions. This is especially highlighted in the care of people living with HIV throughout the U.S. Antiretroviral treatment and the prophylaxis and treatment of opportunistic infections can be complicated, compounded by potential drug interactions and pill burden of medications for co-morbid conditions in the vulnerable and increasingly aging patient population. The Ryan White HIV/AIDS Program funds grant recipients that provide treatment and care to over 500,000 people living with HIV/AIDS in the U.S. Grant recipients that successfully integrate and utilize pharmacists in the patient care team demonstrate exceptional patient outcomes evidenced by high viral suppression rates. Achieving and maintaining viral suppression is paramount for the health of the individual patient as well as for public health and is a key factor in stopping the transmission of the virus and ending the HIV/AIDS epidemic.

At the end of this session attendees will be able to:

- Identify the role of pharmacists in highly successful Ryan White HIV/AIDS Program grant recipient programs.
- Define viral suppression and how it is a component to ending the HIV/AIDS epidemic.
- Describe the current HIV/AIDS landscape in the U.S.

2:45 pm – 3:15 pm
Immunization Initiatives, Strategies and Action Plan: An Interprofessional Approach to Safety
Emanuel George III, PharmD, MAL, Director of Community Experiential Education, UNT System College Of Pharmacy; Annesha White, PharmD, MS, PhD, Assistant Dean of Assessment, UNT System College Of Pharmacy

Immunization is a proven tool for controlling and eradicating disease. From 1967-77, the World Health Organization (WHO) eradicated the natural occurrence of smallpox. Since the Global Polio Eradication Initiative in 1988, infections have fallen by 99%, and some five million people have escaped paralysis. Between 1999 and 2003, measles deaths dropped worldwide by almost 40%. However, with all of the advances in vaccinations, infectious diseases remain a major cause of illness, disability, and death.

Healthy People 2020 goals for immunization and infectious diseases emphasize strategies to increase immunization rate and reduce preventable infectious diseases. One objective of HP2020 is to increase seasonal influenza immunizations rates of adults aged 18 to 64 years to 80%. This session will explore strategies taken by an interprofessional team of pharmacy, medicine and physician assistants students to increase immunization rates on campus.

An immunization campaign carried out at the University of North Texas (UNT) College of Pharmacy was intended to provide influenza immunizations to every student, faculty and staff member on the health science campus. Approximately 1800 individuals were immunized over the course of two weeks, (four two-hour events). Which create additional opportunities to support influenza immunization efforts across the UNT System including the Dallas campus and the UNT pediatric clinic.

At the end of this session attendees will be able to:
• Describe best practices and challenges in the coordination of interprofessional efforts to immunize patients across a health science campus including considerations for pediatrics patients, employee expectations and mass immunization events.
• Explain the establishment of a sustainable immunization program to include funding sources in resource-limited environments.
• Describe the process to garner support and execution of immunization services across an entire college campus to involve students, faculty, staff and patients.

3:15 pm – 3:45 pm

Life without A, B, C, D and X: Update on Pregnancy and Lactation Labeling and How to Make Prescribing Decisions when Treating Pregnant and Breastfeeding Women
Miriam Dinatale D.O., Food and Drug Administration

The Food and Drug Administration (FDA) began implementation of a new labeling system for prescription medication use in pregnant and lactating women, known as the Pregnancy and Lactation Labeling Rule (PLLR), on June 30, 2015. The changes include removal of the pregnancy letter category (A, B, C, D, X), and incorporation of clinically relevant summary information. Prescribing decisions during pregnancy and lactation are now individualized and involve complex maternal, fetal and infant risk-benefit considerations. The content and formatting requirements provide a more consistent way to include relevant information about the risks and benefits of medications used during pregnancy and breastfeeding based on available information. At the 2017 Commissioned Officer Foundation Symposium, FDA discussed the history of pregnancy labeling and provided an overview of the PLLR. The FDA would like to provide an update on pregnancy and lactation labeling and will focus on the addition of human data from observational studies, such as pregnancy registries and cohort and case-control studies, into prescription medication labeling. Prescribing for pregnant and lactating women has important public health implications, and it is important for clinicians to be aware of new safety information on medication use in pregnant and lactating women to inform prescribing practices.

At the end of this session attendees will be able to:

• Describe the structure of pregnancy and lactation sections of prescription medication labeling.
• Explain how available human data are presented in labeling and recognize limitations that may make it difficult to reach a clear conclusion about risk during pregnancy and lactation..
• Cite examples of recently approved prescription medication labelings that have been converted to the Pregnancy and Lactation Labeling Rule format.

3:45 pm -- 4:15 pm

CDR Julie King, BSN, RN, PHN, CCHP, USPHS, Infection Prevention and Control Officer, Central Office, Bureau of Prisons

San Diego is experiencing the largest hepatitis A outbreak since the 1990’s, attributed to person-to-person spread in the homeless and illicit drug using populations. Public health authorities recommend hepatitis A vaccination for these groups, and for food service workers and persons working with these populations. The Bureau of Prisons (BOP) Detention Facility X, located in San Diego, houses ~930
inmates with historical high rates of illicit drug use. The inmate turnover rate is high (average 491 intakes monthly). A hepatitis A outbreak there would be catastrophic effecting BOP staff, inmates, and movement of federal detainees throughout the country. To mitigate this risk, the BOP initiated a hepatitis A vaccination campaign at Detention Facility X in October 2017. A BOP staff assist team implemented a plan to mass vaccinate staff and inmates; simultaneously Hepatitis IgG labs were collected on all inmates who required other blood work to evaluate hepatitis A immunity status.

A total of 1088 inmates and 240 staff were offered vaccination during the assist (acceptance rate 80% for inmates and 98 percent for staff). Of 49 hepatitis A IgGs 12/27 (76 percent) were positive (indicating hepatitis A immunity); 95 percent (21/22) non-U.S. residents were immune compared to 59 percent (16/27) U.S. residents. Based on this data it was decided hence forward to only vaccinate U.S. residents. Best practices for mass vaccination in the BOP were identified and used to develop a BOP mass vaccination protocol that advances BOP preparedness for a vaccine preventable disease outbreak, i.e., measles and mumps.

At the end of this session attendees will be able to:

- Identify interventions to interrupt hepatitis A transmission in a prison setting.
- Describe best practices for a mass vaccination campaign in the correctional setting