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FORUM Rewind provides summaries of the key sessions from NCODA’s annual Spring Forum written by members of NCODA Professional Student Organization chapters from across the U.S. To view slides from presentations, scan the QR code at the end of the summaries.

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A principal investigator for the Pfizer COVID-19 vaccine discusses development of the vaccine and the outlook for herd immunity.

4 | CDC National COVID-19 Update
The CDC’s Deputy Director for Infectious Diseases provides a timeline and the outlook.

5 | Putting Positive Quality Interventions into Action: Consistent Clinical Standards and NCODA Resources for Medically Integrated Teams
A panel discussion of NCODA’s Treatment Support Kits, Positive Quality Interventions and Oral Chemotherapy Education sheets.

5 | Protecting Your Patients and Practices with Cybersecurity
 Leaders from Utah Cancer Specialists talk about the cyberattack on their practice and what they did about it.

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What You Should Know About the COVID-19 Vaccine

**PRESENTER:** Stephen Thomas, MD | Chief of Infectious Disease and Chief Investigator and Worldwide Lead of the Pfizer COVID-19 Vaccine | Upstate Medical University

**SYNOPSIS:** Thomas, a principal investigator in the development of the Pfizer COVID-19 vaccine, provided an overview of COVID virology, discussed how cancer patients could have worse COVID outcomes and explained how vaccines are safe and effective. He also discussed new and upcoming articles about COVID and how vaccine hesitancy and anti-vaccination efforts threaten potential for herd immunity.

**PRESENTATION:** Thomas outlined COVID’s epidemiology and virology. As of April 27, 2021, COVID cases worldwide totaled 148,179,749, while global COVID deaths stood at 3,126,136, according to data provided by the COVID-19 Dashboard at the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University.

SARS-CoV-2 uses spike proteins attached to ACE2 receptors, and then undergoes replication once it enters the cell by releasing its mRNA. The cell’s machinery reads the code projected by the mRNA, leading to a newly assembled virus that eventually is released to infect other cells. Since ACE2 receptors are on multiple organ systems, infection can lead to a multisystem organ disease.

Concerns about the vaccine process being rushed are unfounded. More than 30 years of research have been dedicated to the disease. Companies were willing to take a financial risk to help reduce the occurrence of clinically relevant COVID and protect the healthcare system. Vaccination is essential in reaching herd immunity.

**DISCUSSION:**

**Q:** What is the best response to those who are hesitant to get a COVID vaccine?

**A:** Probe their reasons and ask them why. People are looking for a trusted source to provide them objective information in context that is relevant to them in order to make an informed decision.

**TAKEAWAY POINTS:**

- While it is plausible that people living with cancer might have worse COVID outcomes, the data is still inconclusive and needs further investigation.
- COVID vaccines are safe and effective.
- COVID vaccine hesitancy threatens the potential for herd immunity.

Summary by Jonathan Rivera, PharmD Candidate (2023), University of North Texas Health Science Center.

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CDC National COVID-19 Update

**PRESENTER:** Jay C. Butler, MD, FAAP, MACP, FIDSA | Deputy Director for Infectious Diseases | Centers for Disease Control and Prevention

**SYNOPSIS:** It has been 12-14 months since the coronavirus hit the United States and 16 months since the virus was first identified in China. Butler details the trends in the country throughout the pandemic, the epidemiology of the disease, different virus variants, and vaccines developed throughout the year across the world.

**PRESENTATION:** State of the pandemic:

Between Jan. 21, 2020, and April 17, 2021, 31,444,706 COVID-19 cases were reported in the United States. The nation has experienced peaks with the attempted reopening in June 2020, the return of universities in August 2020 and holiday travel. After the holidays, the infection rate decreased, partially due to the shift in epidemiology. COVID-19 cases started to plateau at the end of February 2021.

More than half a million Americans have lost their lives to COVID-19. The CDC released a mortality comparison of pneumonia, COVID-19 and influenza, finding that it is reasonable to compare COVID-19 to the number of deaths caused by pneumonia. Death caused by COVID-19 have been far greater than those caused by influenza.

From March 1 to April 17, 2021, the cumulative hospitalization rate for adults was 20.6 per 100,000 and cumulative mortality rate was 3.0 per 100,000, with a higher number in those age 65 and older. Incidence of COVID-19 is now higher among 18- to 29-year-olds.

**Vaccines:** In the U.S., there are two mRNA vaccines, Pfizer and Moderna, as well as the adenovirus vector vaccine from Johnson and Johnson. The UK’s AstraZeneca vaccine is the most widely given vaccine in the world. A protein subunit vaccine developed by Novavax is still undergoing trial.

**Variants:** Multiple COVID variants are circulating globally. They have the potential to be more transmittable, cause milder or more severe disease, are less detectable with current viral tests and can resist treatment.

**DISCUSSION:**

**Q:** How do you recommend that providers explain to patients how the COVID-19 vaccine is not an actual vaccine by traditional definition?

**A:** Explain that all vaccines induce a protective immune response. The mRNA vaccines are different in that they are not a component of the virus but an expression of that protein of the host to induce an immune response.

**TAKEAWAY POINTS:**

- Although trends are encouraging, the pandemic is not over yet.
- CDC has found that those fully vaccinated are 90% less likely to get infected.

Summary by Kiarra Bowser, PharmD Candidate (2022), Wingate University School of Pharmacy.
PUTTING POSITIVE QUALITY INTERVENTIONS INTO ACTION: CONSISTENT CLINICAL STANDARDS AND NCODA RESOURCES FOR MEDICALLY INTEGRATED TEAMS

**MODERATOR:** Ginger Blackmon, PharmD | NCODA

**PRESENTERS:** Sharita Howe, PharmD, and Thomas Weart, MD | Virginia Cancer Institute; Monica Martinez, LPN, and Jenny Pearson, PharmD | Oncology Consultants, PA; Stacey McCullough, PharmD | Tennessee Oncology; Marie Sirek, PharmD, BCACP | Billings Clinic; Neal Dave, PharmD, and Vonda McClendon, CPhT | Texas Oncology

**SYNOPSIS:** Treatment Support Kits (TSKs) and Oral Chemotherapy Education sheets (OCEs) are educational materials to help patients better understand their medications and manage adverse effects. Positive Quality Interventions (PQIs) are guidance documents for healthcare providers to promote informed decision-making.

**PRESENTATION:** Treatment Support Kits are designed to empower patients through providing products and educational materials for adverse effect management. NCODA is an FDA-registered kit manufacturer, and a TSK committee makes recommendations for the kits. Oral Chemotherapy Education sheets are patient-centered comprehensive information for the provider-patient counseling discussion. Each resource covers dosing, administration, potential interactions, safe handling and storage, as well as potential adverse effects and their management. Positive Quality Interventions are guidance documents for healthcare providers and are simple and concise yet comprehensive. The sections include description, background, process, and patient-centered activities. These resources aim to help providers make quick and informed decisions to help patients.

The INQOVI® PQI is a prime example of how a PQI can be used to enhance the MID in practice. The PQI In Action session focused on STIVARGA®. STIVARGA® is approved for metastatic colorectal cancer in patients who already have received standard-of-care. Providers use the TSK and OCE to help patients better understand their medication and promote better patient outcomes.

**TAKEAWAY POINTS:**
- TSKs are a resource package designed to empower patients for adverse effect management.
- OCE sheets include comprehensive information for patient-centered education.
- PQIs are guidance documents for healthcare providers to promote quick and informed decisions.

Summary by **Ellie Nazzoli,** PharmD Candidate (2022), University of Missouri-Kansas City School of Pharmacy.

**SESSION SLIDES:** Scan the QR code at right to view slides from this presentation.

PROTECTING YOUR PATIENTS AND PRACTICES WITH CYBERSECURITY

**PRESENTERS:** Randy Erickson, RN, BSN, Ben Harkness and Amy Pasmann MS, RN, Director of Clinical Services | Utah Cancer Specialists

**SYNOPSIS:** Cybersecurity ransomware is becoming more prominent and poses a threat to the healthcare industry. Following the cybersecurity attack that occurred at Utah Cancer Specialists (UCS) during the COVID-19 pandemic, members spoke about their experience and what they did to combat this attack. It took about three days to get the system running again. In the meantime, the clinical side used its limited resources to keep the institution running.

**PRESENTATION:** UCS had a cybersecurity attack that affected every computer that was powered on. Backups were gone and all databases and servers were offline. Additionally, all forms of communication were down, which made it impossible to contact patients and see when or where they had appointments. The only way to get the system back was to bypass a BitLocker, which in essence is an encryption tool that completely limits what you can see in the system.

On the clinical side of things, the practice had only one or two functioning computers and staff’s personal phones. Healthcare workers had to rely on documenting information in paper form.

Additional challenges, other than keeping up with COVID-19 standards, involved identifying who needed flow sheets but had no access to lab requisition forms. Since these health professionals had no access to labs and couldn’t order labs for patients, they consolidated one lab vendor to keep the institution running.

With limited resources, UCS kept the clinical running by using innovative methods such as Microsoft Teams via their phones to establish a safe form of communication between all the teams (nursing, pharmacy, lab, etc.). Lastly, UCS hired a forensics team to find how the breach occurred. What they found was that the hackers used built-in policies in systems to perpetrate the attack, thus their antivirus failed to detect it.

Overall, UCS staff members recommended always having multiple proposals to prepare for future attacks.

**TAKEAWAY POINTS:**
- Have a backup plan in case of a system breach to keep the institution running and to provide the same quality of care.
- No matter how small your institution is, you’re still at risk of being hacked.

Summary by **Raul Salazar,** PharmD Candidate (2023), University of New Mexico College of Pharmacy.

**SESSION SLIDES:** Scan the QR code at right to view slides from this presentation.
Optimizing Use of Biomarkers in Managing Metastatic Non-Small Cell Lung Cancer: The Role of the Oncology Healthcare Team

PRESENTER: Josiah D. Land, PharmD, BCOP | Memorial Sloan Kettering Cancer Center

SYNOPSIS: Biomarker-directed treatments in patients with non-small cell lung cancer (NSCLC) are improving outcomes. Patients with a mutation in a National Comprehensive Cancer Network (NCCN) listed gene who are treated targeting that driver mutation have better overall survival. Multidisciplinary teams should review patients next-generation sequencing (NGS) results to guide treatment.

PRESENTATION: Use of biomarkers to guide treatment selection of oral targeted therapies has transformed the treatment of NSCLC. NGS is the preferred testing method to obtain a broad molecular profile and determine driver mutations that can be targeted. Immune checkpoint inhibitors are considered standard of care for metastatic NSCLC patients without targetable driver mutations. Patients with a targetable driver mutation should receive first-line targetable treatment. Newly approved treatments for established targets RET Fusion+ and MET exon 14 skipping show promising overall response rates and progression-free survival in both treatment naïve and previously treated patient populations, making them first-line treatment options for patients expressing these mutations. Emerging targets are being studied in clinical trials and are showing promising data. Sotorasib has shown a median progression-free survival of 6.8 months for patients with KRAS G1C2 mutations which are associated with poor outcomes. Potential approval may be seen in the coming months.

DISCUSSION:
Q: How are multidisciplinary teams incorporated into assessment of biomarkers?
A: Evolution of other members of the team outside of the tumor board such as pathologists and radiologists can ensure enough sample is obtained to perform testing.
Q: What is the thought process to choosing one agent over another in the same class?
A: It is a multidisciplinary team approach, taking into consideration efficacy, toxicity and financial hardships.

TAKEAWAY POINTS:
- Improved response rates and survival outcomes are seen with targeted therapy.
- NGS testing should be used to determine if patients carry a targetable gene.

Summary by Mariah Pyle, PharmD Candidate (2021), University of Arizona College of Pharmacy.

Important Advances in the Treatment of Bladder Cancer: Integrating Targeted Strategies to Address Previously Unmet Clinical Needs

PRESENTER: Kirollos S. Hanna, PharmD, BCPS, BCOP | M Health Fairview and Mayo Clinic College of Medicine

SYNOPSIS: This session discussed potential biomarkers to optimize selection of patients with urothelial cancer (UC) eligible for immune checkpoint inhibitors (ICI) or targeted agents, the benefits and limitations of current guideline-based treatments for urothelial cancer and their use in patients to appropriately incorporate agents, and utilizing recent and emerging data to select ICI regimens appropriate for patients with UC.

PRESENTATION: UC has a high degree of mutational heterogeneity and frequency of somatic mutations. Next-generation therapies are likely to be based on patient-specific targetable mutations. Muscle Invasive Bladder Cancer (MIBC) is treated with neoadjuvant cisplatin-based chemotherapy followed by cystectomy. For metastatic disease, first-line treatment includes gem/cis and ddMVAC for cisplatin eligible patients. For cisplatin-ineligible patients, gem/carbo or pembrolizumab or atezolizumab (PD-L1+) are first-line; avelumab is indicated for maintenance post-platinum chemo only. Atezolizumab and pembrolizumab are approved for patients with locally advanced or metastatic UC (mUC) not eligible for cisplatin-containing therapy. IOs may be used second line regardless of PD-L1 status. Enfortumab vedotin (Nectin-4 antibody) and sacituzumab govitecan (antibody-drug conjugate) may be used in locally advanced or mUC after IO therapy, and a platinum-containing chemotherapy. Eradafitinib is a tyrosine kinase inhibitor of FGFR1-4 and is the only oral option. Other topics of discussion included AE management for UC therapies (e.g., dose modifications/steroids) and new clinical trials. Clinical trials discussed included the EV-103 trial; studying efficacy and safety of first-line pembrolizumab/enfortumab vedotin, the first IO combination in any cancer type.

DISCUSSION:
Q: When do PD-L1 and other biomarkers need to be tested for?
A: Nectin-4 does not need to be evaluated as it is homogenous among UC cells. FGFR testing may be done if the patient favors oral chemotherapy or to test upfront to determine second-line options. PD-L1 only needs testing for if the patient is carboplatin-eligible, but IO is preferred.

TAKEAWAY POINTS:
- Carboplatin may be used in the metastatic setting in place of cisplatin, but not in MIBC.
- IOs are first-line therapy in patients who are PD-L1+ and in the second-line setting pembrolizumab may be used if considered a category 1 recommendation despite PD-L1 status.

Summary by Diane Hobbs, PharmD Candidate (2022), Purdue University College of Pharmacy.

FORUM Rewind
Legislative Update Within Medically Integrated Dispensing on the Federal Level

**MODERATOR:** Barry Brooks, MD | Texas Oncology

**PRESENTER:** Earl L. “Buddy” Carter | U.S. Representative, Georgia | First Congressional District

**SYNOPSIS:** Carter believes pharmacists are the most accessible healthcare professionals since 95% of all Americans live within five miles of a pharmacy. In order to improve access to pharmacy care and oncology, Carter said NCODA and coalitions continue advocating for the profession, involve patients to also advocate on its behalf, and work to educate members of Congress and local representatives on the mission of NCODA, the value pharmacists bring to the healthcare system, and the importance of preventative care to decrease healthcare costs.

Carter said PBMs bring no value to the healthcare system, but serve only to increase costs through vertical integration processes and DIR fees. He believes the best way to attack prescription drug pricing is through increased transparency and competition, starting with PBMs, and utilizing health professionals — especially pharmacists — to the fullest extent of their license.

He said provider status is an issue that should be handled at the state level, but supports pharmacist reimbursement for services. His goals for pharmacy in the next three to five years include eliminating DIR fees, bringing more transparency and competition to the PBM market, and increasing research and development.

**DISCUSSION:**
Regarding 340B hospital compliance, Carter emphasized the importance of transparency, accountability and increased oversight. His top priority regarding pharmaceuticals is increased research and development to make medications more affordable and not suppressing the number of available drugs in the market.

**TAKEAWAY POINTS:**
- Advocacy is essential to influence change.
- The healthcare industry needs more transparency and competition to lower costs.
- Research and development leading to innovation is critical for the future of oral oncology.

Summary by Mattie Kilpatrick, PharmD Candidate (2023), Auburn University Harrison School of Pharmacy.

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Addressing the Impact of PBMs, Payers and DIR Fees in the Oncology Landscape

**PRESENTER:** Wendy Hemmen | Texas Oncology

**SYNOPSIS:** The four steps for improving performance metrics: 1. Knowing the metrics that apply to the pharmacy. 2. Getting to know your scores. 3. Identifying the top three drivers for fees. 4. Implementing targeted programs.

**PRESENTATION:** Direct and Indirect Renumeration (DIR) fees increase due to four factors: 1. Change in point-of-sale discount. 2. Population shifts. 3. New Medicare prescription/Medicare Advantage prescription drug plans. 4. Average wholesale price inflation as new drugs go to market.

The top three performance measures affecting Medicare Star Ratings are oral diabetes adherence, blood pressure adherence, and cholesterol adherence. Adherence drives 50% of ratings for health plans. Star Ratings are weighted at 75-90%. Distribution varies by PBM, Medicare Part D and/or Medicare Advantage Prescription Drug plan. Statin use in diabetics and Star Ratings and Display Measures — which include HIV specialty adherence and multiple sclerosis specialty adherence — are the remaining two performance measures.

Oncology does not follow a straight-line adherence metric. The first adherence score is based off the patient, followed by the scripts level and then by the patient’s compliance to disease state. A patient can only miss two 30-day fills out of the year before they are considered “non-compliant” and start negatively affecting the score. The pharmacy score is based on alignment of patients and other criteria which is controlled by PBMs.

After the top three drivers are identified, the next step is to implement a targeted program for six to 12 months to see the impact of any new initiative to be reflected in pharmacy score.

The top programs for adherence are in-home supply monitoring, refill management, medication synchronization, auto fill/refill agreement and execution, and adherence/compliance to treatment plan patient contract. The goal is 80% adherence by patient for all drugs/treatment plans. The goal for a non-compliant patient is to fill all star-rated prescriptions with 90-day fills and set them up with auto-refill.

**TAKEAWAY POINTS:**
- It is important to know which metrics apply to your pharmacy and which DIR fees you are being assessed for.
- It is important to know what criteria need to be met before you are assigned a score for that metric.

Summary by Samhitha Dhandamudy, PharmD Candidate (2023), Shenandoah University School of Pharmacy.

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FORUM Rewind

**FORUM Rewind**

**SESSION SLIDES:** Scan the QR code at right to view slides from this presentation.

**LEARN MORE:** Scan QR code at right to learn more about NCODA’s Legislative & Policy Advisory Committee.
Breaking Down the Practice of White, Brown and Clear Bagging in Oncology

PRESENTERS: Ray Bailey, BPharm, RPh | Florida Cancer Specialists and Research Institute; Debra Patt, MD, PhD, MBA | Texas Oncology; Bob Phelan, RPh | Cancer Specialists of North Florida

SYNOPSIS: Topics covered included definitions of white-bagging, brown-bagging and clear-bagging, as well as patient risks, supply chain challenges, hazards and lack of just-in-time inventory management.

PRESENTATION: White-bagging occurs when a payer mandates that a specialty pharmacy dispenses the patient’s prescription and transports the product to the location of administration. There can be issues with the supply chain with each delivery type, causing medications to be incorrect or arrive late, which can create treatment delays. White-bagging and brown-bagging also do not take into consideration that medication regimens change or need adjustment due to progression or changes in weight and kidney and liver function. The lack of just-in-time dispensing may increase financial toxicity and waste. In addition, brown-bagging comes with the hazard of medications not being stored properly, and clinics become responsible for any adverse drug reactions that occur due to suboptimal storage.

DISCUSSION:
Q: In the past, brown- and white-bagging were done mainly with supportive care medications. Have you noticed expansion to include chemotherapy agents?
A: Yes, it is not uncommon for insurance companies to prefer entire chemotherapy regimens to be white-bagged.
Q: How have your practices pushed back against this practice?
A: Practicewide options include renegotiation of payer contracts and, for individual patients, a three-way call with the payer or the employer HR department to get an override or appeal may be successful.

TAKEAWAY POINTS:
• White- and brown-bagging increase waste and financial toxicity and can pose a safety hazard to patients.
• The number of insurance companies preferring white- and brown-bagging continues to grow and is expanding into medications at high risk of needing dose changes or denaturation.

Summary by Diane Hobbs, PharmD Candidate (2022), Purdue University College of Pharmacy.

SESSION SLIDES: Scan the QR code at right to view slides from this presentation.

Exploring Careers for Students Within Oncology

MODERATOR: Jason Darmanin, PharmD Candidate | The University of Rhode Island College of Pharmacy; National Executive Board President | NCODA Professional Student Organization

PRESENTERS: Shauna Gunderson Hua, PharmD | Genentech; Brooke Patterson, PharmD, BCACP | Janssen Pharmaceuticals; Roula Qaqish, PharmD | AbbVie

SYNOPSIS: Three veteran pharmaceutical industry leaders discuss career strategies.

PRESENTATION: Gunderson Hua provided participants with advice about career changes. She emphasized taking calculated risks and learning from experiences. Living in the Ecuadorian rainforest as a foreign exchange student, she said she learned the value of incorporating the right teammates by listening to everyone’s mission and vision. When asked where she hopes to be in five to 10 years, she said she could not yet grasp how the healthcare ecosystem will change, but hopes to continue impacting patient care by driving access/affordability for all therapeutics.

Patterson gave a different perspective on careers in pharmacy. In her current role, she said she oversees an entire team of medical science liaisons in the lymphoma space. Journeying through her career, she found herself helping HIV patients. A good number of these patients had cancer – sparking an interest in oncology. Her biggest piece of advice to student pharmacists is “stay curious; keep an open mind — you never know where you’ll end up.” Qaqish shared wisdom she built from two decades with AbbVie. She specifically quoted the following adage for those headed to work in healthcare: “Accept the things I cannot change, have the courage to change the things I can, and wisdom to know the difference.” Perhaps the strongest act a leader can perform is choosing to accept situations and learning from them, she said. Prioritization is also important. She emphasized that healthcare professionals should find time for themselves since they often are so caught up in helping others that they forget to care for their own needs.

TAKEAWAY POINTS:
• In order to provide excellent healthcare, providers must have an excellent team.
• Oncology pharmacy careers don’t always proceed in a straight line.
• One of the most daunting challenges for healthcare professionals is the ability to change one’s self.
• Healthcare professionals must take time to care for their own health needs; it’s important to know what brings one joy.

Summary by Melissa Dierkes, PharmD Candidate (2022), University of Missouri–Kansas City School of Pharmacy.

SESSION SLIDES: Scan the QR code at right to view slides from this presentation.
Pharmaceutical Excellence in Leadership for Students

**PRESENTER:** Joseph A. Cordaro, PharmD, MBA | Incyte

**SYNOPSIS:** Cordaro, Vice President of Market Access, Distribution and Patient Access Services, discussed how he became an oncology leader and provided insights for students about important skills to develop in order to achieve pharmaceutical excellence.

**PRESENTATION:** Cordaro provided an in-depth explanation of his extensive education and work experience. He discussed his professional goals, which included leading teams, learning about sciences in a business environment, and practicing innovative ways to bring new therapies to patients with unmet medical needs.

He talked about the importance of social networking such as creating and updating a LinkedIn profile, getting involved in professional organizations, and learning ways to develop professional skills. He emphasized the benefits of seeking guidance from mentors and teachers to help refine skills including, but not limited to, emotional intelligence, leadership, communication, and collaboration.

He stressed the ideal of becoming a lifelong learner in science, business and technology. He emphasized the importance of learning new skills, being open to change and actively look for opportunities.

Finally, he highlighted the importance of being resilient. He noted that some skills, such as managerial leadership and team-building, may take time to develop. He stressed that the best way to improve is to practice being responsible, and to listen and learn from the feedback provided.

**DISCUSSION:**

**Q:** What is the biggest challenge you’ve had to overcome in your career so far?

**A:** While it was difficult to pinpoint the hardest challenge, Cordaro said the first thing that came to mind was starting a new job. It comes with new changes and challenges, but it takes time and practice to overcome. He also noted that the transition to managing other people also can be a challenge.

**Q:** What is the main takeaway that you want the students to leave here knowing?

**A:** Know that the future is bright and be confident, resilient and open to new challenges. And be kind to others.

**TAKEAWAY POINTS:**

- Be involved in networking and professional organizations.
- Anticipate and embrace changes in life.
- Apply your knowledge but know there is always more to learn; be resilient.

Summary by Jonathan Rivera, PharmD Candidate (2023), University of North Texas Health Science Center.

**SESSION SLIDES:** Scan the QR code at right to view slides from this presentation.
An In-Depth Look at Integrative Medicine for the Oncology Patient

PRESENTER: Gary Deng, MD, PhD | The Bandheim Integrative Medicine Center at Memorial Sloan Kettering Cancer Center

SYNOPSIS: Non-pharmacological interventions are extensively used among patients with the purpose of increasing their quality of life. By avoiding pharmacological agents that may potentially cause side effects as first-line agents to manage signs and symptoms, one can expect better health outcomes. Thus, combining standard of care with integrative medicine is essential for improving the patient’s experience, quality of life, outcomes, well-being and survival. Some basic interventions include acupuncture for joint pain, nutrition for weight management or constipation, and supplements and/or herbs to manage sleep. Overall, this holistic approach to cancer treatment may possess various benefits.

PRESENTATION: Integrative medicine include non-drug therapies that may enhance cancer care when used in conjunction with conventional cancer treatment. The basic causes of illness in cancer include the host, the agent and the environment. In the past, cancerous cells alone were targeted as a treatment option. Currently, with the extensive knowledge about the impact of the microenvironment in which cancerous cells thrive, it has become an alluring target for treatment. A holistic approach may aid in changing the microenvironment to optimize cancer treatment. As health professionals, it is important to not only take physical complaints into consideration but also the patient’s holistic health condition, including their mental state, living environment and other issues that may affect their physical condition.

As shown in empiric research, mental state alone may increase the growth rate of cancer cells if not well managed. Hence, the focus of treatment should be based on the six pillars for good health: nutrition, exercise, stress management, sleep/circadian rhythm, relationships and meanings. If we improve each of these pillars it can lead to better autophagy and an advantageous microenvironment for treatment.

In conclusion, integrative medicine may be beneficial for cancer patients, thus it is recommended for health professionals to do empiric research to implement this approach efficiently and effectively in their practice.

TAKEAWAY POINTS:
- Integrative medicine may enhance cancer care.
- Empiric research is necessary to show efficacy of integrative medicine.

Summary by Raul Salazar, PharmD Candidate (2023), University of New Mexico College of Pharmacy.

Symptom Management: Collaboration Within the Medically Integrated Team

PRESENTERS: Dana Ingoglia, RD, CSO, LDN, Natasha Khryistolubova, BPharm, RPh, BCOP, and Beth Wittmer, BSN, RN,OCN | Florida Cancer Specialists and Research Institute

SYNOPSIS: The Florida Cancer Specialists (FCS) team consists of physicians, mid-level providers, nurses, dietitians and pharmacists spread across nearly 100 locations. While team members work in different offices, they still are able to collaborate and put patient needs in the forefront.

PRESENTATION: This presentation discussed collaboration between pharmacists, nurses and dietitians. Rx To Go Pharmacy is an oncology specialty pharmacy that services patients in the FCS network. The pharmacy offers an adherence program to in-house patients. Patients receive clinical counseling from a pharmacist about the benefits of the drug, safety and management of side effects, as well as medication list reconciliation and drug interaction checks.

All patients under a value-based care payer plan have access to care managers. Those who receive oral oncology agents from pharmacies other than Rx To Go are placed into their health tracker program to allow them to receive side-effect management. Care managers interact with the Rx To Go team in numerous ways, including assisting offices with refill requests, managing triage concerns and coordinating with nutrition services to extend supportive care.

Registered Dietitians (RD) certified in oncology care also work with the team to manage symptoms. All patients in the 49 participating clinics have access to an RD consult. Dietitians present to care managers and the pharmacy staff, as well as communicate through a monthly newsletter and a website feature. Dietitians collaborate with the Rx To Go team to distribute helpful guides, such as diet handouts for hyperglycemia due to alpelisib, and they assist with applications for patient assistance, such as for pancreatic enzyme replacement therapy.

DISCUSSION:
Q: How did FCS come to hire dietitians?
A: Our physicians saw the value of adding dietitians to patient care.

TAKEAWAY POINTS:
- A medically integrated, interdisciplinary team is beneficial in managing side effects.
- Providers work together to create educational materials and order sets to better manage patients receiving oral oncoytics.
- When multidisciplinary teams work together, patients are less likely to fall through the cracks and are better able to receive symptom management services.

Summary by Diane Hobbs, PharmD Candidate (2022), Purdue University College of Pharmacy.
Operation Challenges for Pharmacy Technicians: Improving Workflow & Efficiency

MODERATOR: Taryn Newsome, CPhT | Virginia Cancer Institute

PRESENTERS: Sara Eisenhart, CPhT | Gettysburg Cancer Center; Teri Roberts, CPhT | Arizona Oncology

SYNOPSIS: This session reviewed implementing PQIs, managing MIDs, coordinating care between multiple locations, being prepared for the unexpected and maximizing workflow.

PRESENTATION: Implementing PQIs has been beneficial for both Gettysburg Cancer Center and Arizona Oncology. PQIs provide guidance for healthcare professionals to manage patient toxicities so that patients can remain on treatment. Both cancer centers continue their efforts on PQI implementation despite reduced staffing.

Managing an MID with one technician can be challenging, however, both centers are able to adequately manage their patients’ needs by prioritizing what is in the queue and processing what is needed as soon as possible. Coordination of care through effective communication and being prepared for the unexpected are key to maximizing workflow within an MID.

DISCUSSION:
Q: Are medications shipped out to patients?
A: For special circumstances, medications may be shipped, such as for an unexpected illness, etc. The majority of the time medications are picked up by the patient.
Q: How do you communicate within your practice?
A: G-chat via email, Microsoft Teams and direct extensions as well as face-to-face contact.
Q: How do you define maximizing workflow in your MID setting?
A: Ensuring things are being triaged as necessary and handled immediately when needed. Prioritize things that need to happen and create a schedule for the day.

Q: What would your ideal pharmacy look like?
A: More technicians to assist and allow for nursing to focus on better patient care.

TAKEAWAY POINTS:
• Pharmacy technicians play an important role in ensuring quality patient care at oncology clinics.
• Pharmacy technicians are fundamental in operating an effective MID.
• MID workflow can be maximized with proper triaging and effective communication, and being prepared for the unexpected.

Summary by Mariah Pyle, PharmD Candidate (2021), University of Arizona College of Pharmacy.

Looking Forward: New and Emerging Oral Oncolytics

PRESENTER: Ashley E. Glode, PharmD, BCOP | University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences

SYNOPSIS: Glode provided an updated list of FDA-approved oral oncolytics, which included their properties, indications, mechanism of action, place in treatment guidelines, and patient education. She also discussed the clinical trials for each of them.

PRESENTATION: The FDA has approved several oral oncolytics for the treatment of solid tumors. For non-small cell lung cancer (NSCLC), capmatinib and tepotinib are the preferred agents. These agents showed benefit in patients with advanced NSCLC with a MET exon 14 slipping mutation in the GEOMETRY and VISION trials, respectively. Patient-specific considerations when choosing between these two agents for NSCLC include ease of administration (twice daily for capmatinib and once daily with food for tepotinib), as well as adverse effects, warnings and precautions (capmatinib has a higher risk of photosensitivity, while tepotinib has higher rates of reported edema and musculoskeletal pain). Selpercatinib is another approved agent for NSCLC, showing efficacy and low-grade toxicity in RET-fusion positive, treatment-naïve patients or those previously treated with platinum-based chemotherapy. This drug has a warning for QT interval prolongation and bleeding. In the ARROW trial, pralsetinib showed rapid activity in NSCLC patients, regardless of previous treatment, and it has a warning for tumor lysis syndrome.

For renal cell carcinoma, tivozanib is approved for patients who have relapsed or failed two or more previous therapies. There also have been oral therapies approved by the FDA for hematologic malignancies. In February 2021, umbralisib was approved for R/R marginal zone lymphoma and R/R follicular lymphoma. In the UNITY- NHL trial, this agent showed meaningful clinical activity in patients with indolent Non-Hodgkin Lymphoma that were treated previously.

DISCUSSION:
There are many resources available to facilitate patient and provider education, including education sheets from the companies and package inserts. The COVID-19 pandemic has created challenges to patient education, but virtual telehealth and phone appointments have proved helpful.

TAKEAWAY POINTS:
• As new agents are approved, it is important to determine an optimal place in treatment.
• There are important disease- and patient-specific factors to consider when implementing a treatment plan and educating patients.

Summary by Yarelis Diaz-Rohena, PharmD Candidate (2022), Nova Southeastern University College of Pharmacy.

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