

***Educate. Collaborate.
Prevent Infections.***



***KyIP Training Center
Annual Report
2023***

Table of Contents

Welcome Letter	Page 3
Executive Summary	Page 4
Introduction and Background	Page 5 - 6
Center Global Structure	Page 6
Meet the KyIP Training Team	Page 7
Meet the 2022-23 Advisory Board	Page 8
2023 Program Review	Page 9
Mission and Vision	Page 9
Program Content Overview	Page 10
Education and Training Strategies	Page 11 - 12
Achievements	Page 13 - 32
IP Boot Camp	Page 13 - 20
2022 – 2023 Live Training Events	Page 21
Continuing Education	Page 22 - 29
Outreach	Page 30 - 32
KyIP Training Center Listens	Page 33 - 38
Future Planning and Expansion	Page 39
Conclusion	Page 40
Appendix A	Page 41
Appendix B	Page 44



Welcome

I extend a warm welcome to you as we present the annual report for the Kentucky Infection Prevention Training Center (**KyIP Training Center**). As we delve into the accomplishments, challenges, and strides made over the past year, we take pride in sharing our commitment to preventing the spread of infectious diseases and facilitating comprehensive training for frontline healthcare workers and allied health professionals.

The **KyIP Training Center** remains steadfast in its dedication to delivering outstanding infection prevention training to healthcare professionals, frontline workers, and individuals in healthcare-adjacent fields, including environmental services and food and nutrition, across the state of Kentucky. Our overarching mission is to empower healthcare professionals with the knowledge and skills essential for infection prevention and control in diverse settings, thereby enhancing patient safety and mitigating the risk of healthcare-associated infections.

Our curriculum encompasses a wide spectrum of topics, ranging from hand hygiene and disinfection to sterilization, personal protective equipment (PPE) use, and outbreak management. Through strategic partnerships with healthcare facilities throughout the state, our aim is to reach a broad spectrum of healthcare workers, leaving a lasting impact on infection prevention and control practices in Kentucky.

Within this report, you will find comprehensive details regarding our training programs, ongoing projects, and community outreach initiatives. Additionally, it offers insights into the transformative effect of our efforts on infection prevention and control within healthcare settings, outlining the future trajectory of the **KyIP Training Center** and our successes throughout 2023.

We express our gratitude to our valued partners and stakeholders, whose unwavering support has been instrumental in achieving our objectives and sustaining our impact in the battle against infectious diseases.

I thank you for your ongoing support of **KyIP Training Center**.

Julia Frith, DNP, RN, CIC

Programmatic Lead, Kentucky Infection Prevention Training Center (KyIP Training Center)

Norton Infectious Diseases Institute



2023

Kentucky Infection Prevention Training Center Annual Report Executive Summary

400+ Healthcare Professionals Trained at IP Boot Camp

48 Hours of FREE Continuing Education Credits

985 Hours Users Spent Watching Grand Rounds

26,704 Impressions across All Social Media Platforms

1,100+ Total Newsletter Subscribers Monthly

12 Bite-Sized Training Sessions at **14** Hospitals Totaling **360+** Participants

254 Infection Prevention Training Resources

KyIP Training Center is dedicated to performance excellence in educating healthcare professionals on infection prevention.

By delivering innovative curriculum and expert instruction, KyIP Training Center ensures the acquisition of essential skills.

Through strategic partnerships and outreach initiatives, the KyIP Training Center extends its impact, fulfilling its core mission of safeguarding public health and safety, providing free training and education.

KyIP Training Center is proud to continue this important work throughout the Commonwealth and beyond.



Educate. Collaborate. Prevent Infections.

Introduction: Background and Purpose

Over the preceding four years, we have continued to confront the ramifications of an infectious disease with person-to-person transmissibility, but even before our awareness of SARS-CoV-2, endeavors in infection prevention among patients and healthcare practitioners during routine care procedures were persistently challenging. Navigating staffing shortages, supply chain challenges, and the often overwhelming burden and burnout in the healthcare field necessitates resilient strategies, effective resource management, and comprehensive support systems to ensure the continued delivery of high-quality patient care, which can often defer infection prevention and control strategies in favor of sustaining patient life.

The establishment of the Kentucky Infection Prevention Training Center (**KyIP Training Center**) was propelled by a crucial need identified by the Centers for Disease Control and Prevention (CDC) regarding infection prevention. Training and education in infection prevention and control constitute fundamental components in the academic preparation of students, with further refinement of these skills during clinical practice. However, the advent of COVID-19 has underscored the vulnerability in our foundational knowledge and established practices.

The recognized gap in infection prevention education, as acknowledged by the CDC through reported infection rates across more than 36,000 healthcare facilities nationwide, including hospitals, nursing homes, and various healthcare establishments integrated into the National Healthcare Safety Network (NHSN), serves as the impetus for **KyIP Training Center's** mission. This initiative is dedicated to addressing and bridging the educational void, equipping healthcare professionals and frontline workers with the requisite knowledge and skills to prevent and control infections comprehensively.

Project Firstline

In response to the above infection prevention issues, the CDC developed Project Firstline, a broad program with the goal of educating and training frontline healthcare workers on the basics of infection prevention and control.

Project Firstline provides innovative and accessible infection control education for all frontline healthcare workers—so they can protect their patients, their coworkers and themselves from infectious disease threats in healthcare. As a collaborative, Project Firstline brings together more than 75 healthcare, academic, and public health partners to reach a wide range of healthcare audiences and settings across the country.

Project Firstline offers educational resources in a variety of formats to meet the diverse learning needs and preferences of the healthcare workforce. Resources are designed to empower and enable healthcare workers to think critically about infection control, using adult learning principles, educational best practices, CDC recommendations, and the science that informs them.

The information provided through Project Firstline was created by experts at the Centers for Diseases Control (CDC) and is aimed at providing basic, clear, and transferrable information so that each frontline healthcare worker is equipped to do their best work in preventing infection every time they provide care.

A grant, made available through the American Rescue Plan Act of 2021, P.L. 117-2, is awarded through the CDC's Epidemiology and Laboratory Capacity (ELC) Cooperative Agreement (CK19-1904). This grant has been awarded to the Kentucky Department for Public Health (KDPH) and disseminated to Norton Healthcare Foundation to execute Project Firstline for Kentucky.

Long-Term Care Nurse Strike Team

The same grant, made available through the American Rescue Plan Act of 2021, P.L. 117-2, awarded through the CDC's Epidemiology and Laboratory Capacity (ELC) Cooperative Agreement (CK19-1904), focuses on the long-term post-acute care facility. Aptly named the Nurse Strike Team, the intention of the program is to assist in supporting long-term care facilities during their response to SARS-CoV-2 infections, and also to build and maintain the infection prevention infrastructure necessary to support resident, visitor, and facility healthcare personnel safety.

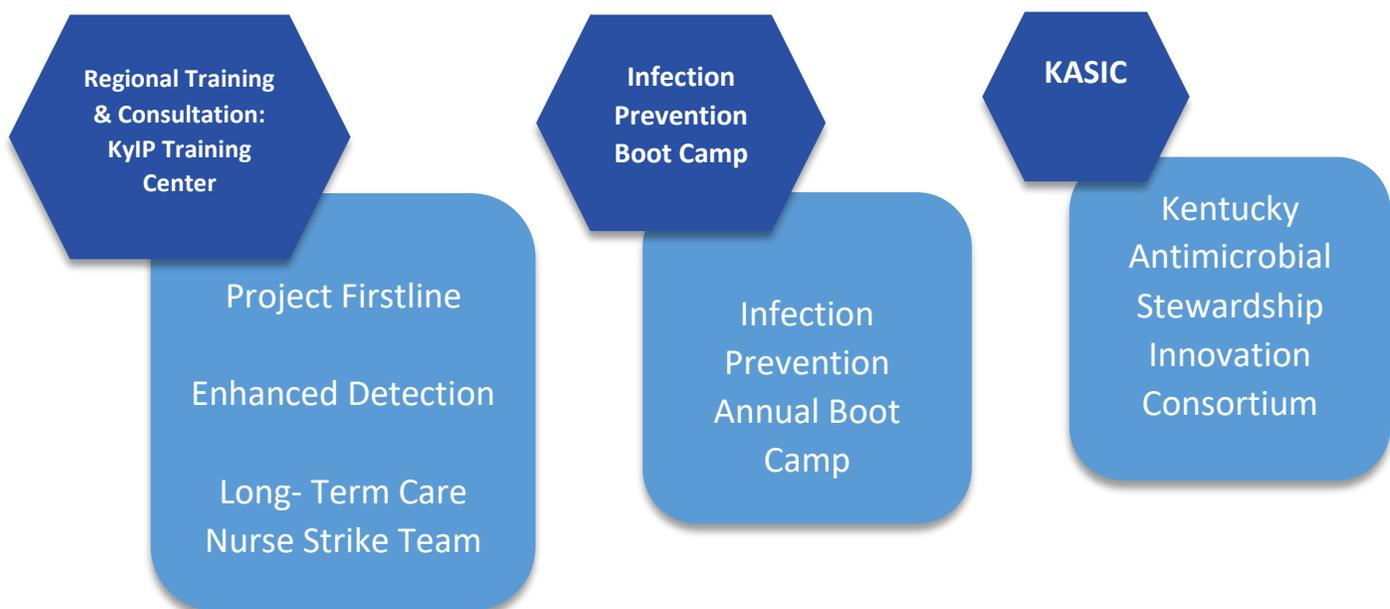
KyIP Training Center

KyIP Training Center seeks to be a leading program in the field of infection prevention and control, serving as one of the central hubs for training and education across the state of Kentucky. **KyIP Training Center** is committed to providing high-quality training programs that empower healthcare professionals and members of the community with the knowledge and skills necessary to prevent and manage infectious diseases. With a team of experienced trainers, educators, researchers, and support, **KyIP Training Center** offers a wide range of programs and courses designed to meet the needs of different learners, from basic infection prevention to advanced specialized training.

KyIP Training Center provides the necessary infrastructure to develop, maintain, and house infection prevention and control training materials for the various projects, including Project Firstline and Nurse Strike Team, **KyIP Training Center** is responsible for administering.

Global Structure

The **KyIP Training Center**, and its subsequent programs such as Project Firstline, and IP Boot Camp, and the sister program for antimicrobial stewardship: Kentucky Antimicrobial Stewardship Innovation Consortium (KASIC), follows a hierarchical structure that involves an Advisory Board at the top level. The next level includes program administrators who oversee all day-to-day operations of the program and coordinate with various stakeholders to further the mission. The third level consists of infection preventionists who develop education and provide training to prevent and control infections in healthcare settings. Finally, the frontline staff, including nurses, physicians, and other healthcare workers, implement the infection prevention strategies in their daily work. These frontline healthcare workers are the target of Project Firstline and **KyIP Training Center**. This hierarchical structure ensures effective communication, collaboration, and accountability across all levels of the program



Meet the KyIP Training Center Team

Introducing the distinguished members of the **KyIP Training Center** team – a dynamic and seasoned ensemble committed to delivering exceptional training for healthcare professionals. Comprising knowledgeable advanced-practice and registered nurses, alongside senior biostatisticians and a program coordinator, the team is characterized by a profound passion for sharing expertise and facilitating the success of others in their careers. Drawing from extensive experience across diverse healthcare settings, the team offers a distinctive perspective and pragmatic approach to the training programs.

The **KyIP Training Center** team contributes content to initiatives such as Project Firstline, Long-Term Care Nurse Strike Team, and Infection Prevention Boot Camp, in addition to numerous other educational and training events accessible on the kentuckyiptraining.org website.

Meet the Training Center Staff

Lead

- Julia Frith, DNP, RN, CIC

Advanced Practice and Registered Nurses

- Valenchia Brown, DNP, APRN, FNP-C, CIC
- Kirsten Trudeau, MSN, APRN, FNP-C
- Laurel Robinson, DNP, APRN, FNP-C
- Melissa Forton, DNP, APRN, FNP-C
- Vanessa Fisk, RN, BSN, CCRC

Program Manager

- Chelsea Song, MSc, CSSBB-ASQ

Program Coordinator

- Tatjana Boston

Biostatisticians

- Stephen Furmanek, MPH, MS
- Thomas Chandler, MPH
- Salwa Rashid, MD, MPH, PhD (c)
- William Mattingly, PhD



The KyIP Training Center Advisory Board



The Advisory Board is comprised of leaders in infection prevention and control from acute and long-term care facilities, as well as behavioral health and public schools. Each member brings a unique perspective to infection prevention and control and the population served throughout Kentucky. Advisory Board members have partnered with **KyIP Training Center** to aid with continuing education and outreach.

2022- 2023 KyIP Training Center Advisory Board Membership

Member Name	Organization
Lead – Julia Frith, DNP, APRN, CIC	Norton Healthcare
Co-Lead - Valenchia Brown, DNP, APRN, FNP-C, CIC	Norton Healthcare
Sinthuya Alston, MD, CIC, CSSBB	Norton Healthcare
Rochelle Beard, MSN, CPN, CIC	Kentucky Hospital Association
Lisa Biddle-Puffer, MA, LNHA	Kentucky Association of Healthcare Facilities/Kentucky Center for Assisted Living
Deborah Campbell, MSN, CPHQ, RN-BC	Kentucky Hospitals Association
Andrea Flinchum, BSN, MPH, CIC, FAPIC	Kentucky Department for Public Health
Melissa Fugate, MSN, RN, CIC	Baptist Health
J Hudson Garrett, PhD, MSN, MPH	Community Health Associates
Amber Gensheimer, MSN, NPD-BCS	Signature Healthcare
James Hensley, ASPC, CIC, MBA	Appalachian Regional Health
Delanor Manson, MA, BSN, RN	Kentucky Nurses Association
Laura Morton, MD	Trager Institute
Whitney Powell, BSN	Seven Counties Services
Lecresha Sewell, DNP, APRN, WHNP-BC, SANE	Melanated Healthcare
Eva Stone, DNP, APRN	Jefferson County Public Schools
Angelina Strickland, DNP, APRN, FNP-C	HaveHope Counseling
Missy Travis, MSN, RN, CIC	IP&C Consulting
Tim Veno	Leading Age
Teresa Villaran, MSN, CNN, CCRN	Nephrology Nurses Association

To further aid the **KyIP Training Center** and IP Boot Camp, three consultants with a background in infection prevention and control have been contracted to assist with content creation. Consultants include J. Hudson Garrett, PhD, MSN, MPH, CEO and Founder, Community Health Associates; Missy Travis, MSN, RN, CIC, CEO and Founder, IP&C Consulting; Tim Wiemken PhD, MPH, CIC, Epidemiology Researcher Pfizer.

2023 Program Review

The below program review encapsulates the achievements realized in 2023, while also presenting a forward-looking vision and a strategic plan for future accomplishments. The **KyIP Training Center** team has made significant strides in accomplishing goals set in 2022 and has planned upcoming events, educational initiatives, and interactive sessions through 2024. These endeavors are intended to actively engage the healthcare community and contribute to the advancement of infection prevention practices in the state of Kentucky.

The review begins with a reaffirmation of **KyIP Training Center's** mission and vision, the foundational principles that guide all endeavors. Next, the current model for which training and education is based is outlined, highlighting the strategies employed to ensure relevance and effectiveness in infection prevention and control training. **KyIP Training Center's** commitment to education and training is underscored as we elaborate on the diverse training and education strategies implemented throughout the year. Last, **KyIP Training Center** presents current achievements for 2023, showcasing the significant milestones reached by the **KyIP Training Center** team. Looking ahead, an outline for **KyIP Training Center's** future goals, setting a visionary course for continued excellence and advancement within the healthcare landscape.

KYIP TRAINING CENTER IS COMMITTED TO IMPROVING THE LIVES OF INDIVIDUALS ACROSS THE COMMONWEALTH AND THOSE WORKING ON THE FRONTLINE THROUGH TARGETED INFECTION PREVENTION INTERVENTIONS AND INITIATIVES.

THE MISSION

The mission of the KyIP Training Center is to provide access to in-person and on-demand education, training, and support to frontline healthcare workers, healthcare professionals working in long-term and short term acute care, and the broader community in the prevention and control of infections.

THE VISION

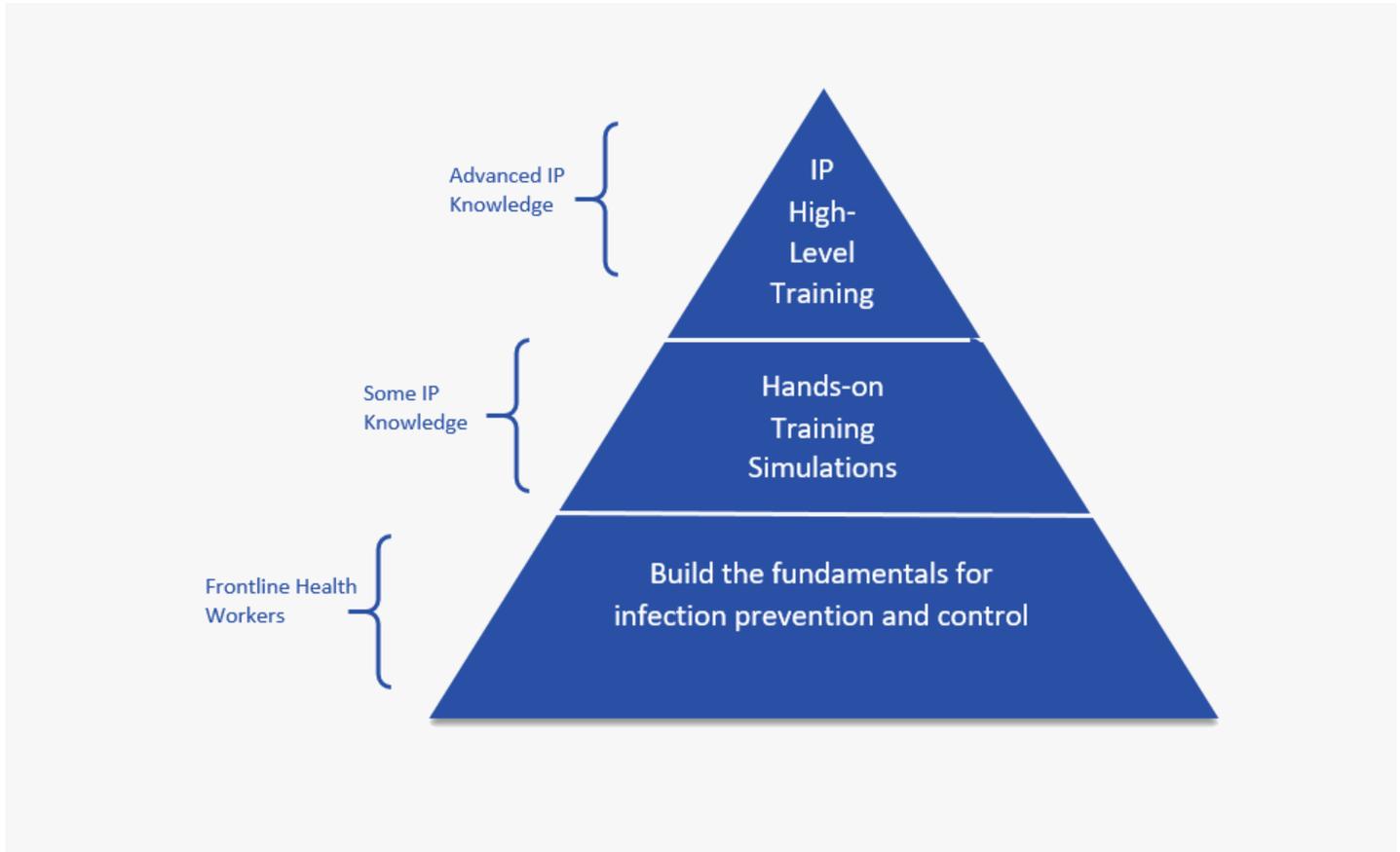
The vision of the KyIP Training Center is to be a leading center of excellence for infection prevention education, research, and advocacy and to be at the forefront of innovation and best practices in infection prevention, and to continuously improve our training programs and resources to meet the evolving needs of our community. The KyIP Training Center envisions a future where all healthcare professionals have access to high-quality, evidence-based training in infection prevention and control, and where frontline healthcare professionals are empowered to protect themselves and teach others about the spread of infectious diseases.

Program Content Overview

To create infection prevention education that is high quality, high impact, and meets the needs of diverse learners, a methodical process for content creation needed to be established. The **KyIP Training Center's** educational model uses a tiered approach that involves breaking down the training program into multiple tiers, each of which is designed to build on the skills and knowledge of the previous tier.

For each piece of infection prevention education, the following principles are applied:

- **Selection of Intended Audience** –this may include frontline workers such as environmental services, healthcare workers with a more direct role in patient care, or infection preventionists. Assessment of the audience and their understanding of infection prevention and control determines the educational content.
- **Intended Outcome** – each educational program is developed with the intended outcome of the education as the focus. Education may be provided in a simulation format allowing users to reenact the scenarios. Additionally, a train the trainer format is completed with an education packet provided to function as a curriculum for the user.
- **Adult Learning Principles** – adult learning strategies are utilized when completing these education sessions. This includes utilizing small vignettes or “bites” that users can access for short duration pointed training of staff. These bites allow users to train staff on information that is pertinent to their role in a short period of time. Simulation training is utilized in a format that a user is able to provide hands on education on topics of need for the user.
- **Cultural Competency**- culture competency is ingrained in all of the education that comes from the **KyIP Training Center**. Understanding and appreciation of the diverse workforce and community that we serve is imperative for success.



Education and Training Strategies

The **KyIP Training Center's** cutting-edge education and training program focused on preventing and controlling infectious diseases through a variety of educational modalities that are accessible to all individuals working in healthcare, regardless of education or skill level. The Training Center utilized Moore's Educational Model, which is designed to provide learners with hands-on experience through simulation, as well as develop a strong understanding of cultural competency to effectively address health disparities and inherent bias, is a unique training experience for participants.

Simulation-Based Training

Simulation-based training is an integral part of **KyIP Training Center's** education model, allowing learners to engage in realistic scenarios that simulate potential infectious disease outbreaks. Learners can practice identifying and addressing infectious disease risks, implementing infection prevention and control measures, and responding to outbreaks in a safe and controlled environment. This approach provides learners with the opportunity to apply their knowledge in a practical setting, enhancing their understanding of best practices for infection prevention and control.

Bite-Sized Education Series

The bite-sized education learning model is a form of learning that involves breaking down complex topics or skills into smaller, more manageable units or "chunks". These chunks can be easily consumed by learners and can be delivered through a variety of mediums such as videos, presentations, or interactive simulations. The idea behind the bite-sized education learning model is to provide learners with small, digestible pieces of information that they can easily consume and retain. This approach is particularly effective for busy learners who may have limited time to devote to learning or who may be overwhelmed by large amounts of information. In this model, each training is designed to be self-contained and focused on a specific learning objective or topic. This allows learners to quickly and easily access the information they need and to learn at their own pace. Additionally, the modular nature of this approach makes it easy to update and revise content as needed, ensuring that learners have access to the most current and relevant information. Overall, the bite-sized education learning model is a flexible and effective approach to learning that can be adapted to a wide range of topics and audiences.

Infection Prevention Mentorship

The IP Mentorship Program stands as a robust resource within the realm of infection prevention, aimed at equipping individuals with the tools and knowledge necessary for success. Within the critical sphere of healthcare, where patient safety reigns supreme, access to expert guidance is invaluable. Recognizing this imperative, KyIP Training Center established the Mentorship Program, offering a comprehensive framework for the cultivation, enhancement, and optimization of infection prevention practices across the Commonwealth.

Part of the Mentorship Program includes an array of resources, including enlightening videos, informative voice-over presentations, compelling still photographs, and practical skills packets tailor-made for training sessions. KyIP Training Center staff also delivers in-person, hands-on or virtual training, ensuring mentees are equipped with the latest in infection prevention knowledge and skills. The program was designed for both experienced and inexperienced professionals working in infection prevention and spans the spectrum of education from the basics through policy and procedure.

Mobile Simulation Unit

The Mobile Simulation Unit offers an immersive and practical learning environment designed to empower staff through real-world, hands-on simulation intended to equip staff to face challenges with confidence. This model has been particularly beneficial because it allows attendees to fail in a safe environment, learn from peers and experts, and also provides a fun and interactive environment for learning, which may lead to better retention and employee performance.

The Mobile Simulation Unit brings the simulation directly to the facility. KyIP Training Center staff provide all the essential supplies, such as PPE, and all training. Mobile Simulation has been popular because it relieves the burden of education for infection prevention staff.

Enduring Education

Since inception, the **KyIP Training Center** has made great progress in the training of frontline healthcare workers and infection preventionists to meet the overall mission of the program. Capitalizing on additional services and experts within the Norton Healthcare enterprise, **KyIP Training Center** was able to offer education that supplements traditional infection prevention activities. This includes clinical research course, educational program in microbiology, antimicrobial stewardship, biostatistics, and antibiotic drug class reviews, all helping shape the knowledge of infection prevention and control.

Cultural Competency Model

Cultural competency is a fundamental aspect of the education model for **KyIP Training Center**, recognizing its crucial role in training for infection prevention. This acknowledgment extends to understanding and accommodating cultural nuances that can influence disease transmission and control.

KyIP Training Center provides comprehensive annual training and competency assessment that includes cultural humility, implicit bias, and cross-cultural communication, to all staff members to ensure and equip learners with the necessary skills to engage effectively with diverse communities. This looks like education development that is adaptable and addresses such issues as language barriers, consideration and respect of culture beliefs or restrictions, and awareness of health disparities. In practice, this looks like being culturally sensitive to practices around modesty and privacy, such as providing a privacy screen during vaccination; providing infection prevention information in multiple languages to ensure comprehension among diverse cultural groups; addressing stigma and misinformation related to infections or healthcare; and tailoring interventions to meet the needs, traditions, or cultural narratives into educational materials or outreach campaigns.

By integrating cultural competency into the educational approach, the **KyIP Training Center** actively contributes to reducing health disparities and advancing health equity across the Commonwealth.



2023 Achievements

Below outlines the remarkable achievements realized by the **KyIP Training Center** throughout 2023. As an institution committed to excellence in infection prevention education, our dedicated team has navigated challenges and seized opportunities, resulting in significant milestones and positive outcomes. From innovative educational initiatives to impactful training strategies, the **KyIP Training Center** has made noteworthy contributions to advancing infection prevention practices within the healthcare community.

Infection Prevention Boot Camp

The mission of the Infection Prevention Boot Camp (IP Boot Camp) is to furnish healthcare professionals with the essential knowledge, skills, and tools imperative for preventing and controlling the transmission of infections within healthcare settings. This comprehensive program delivers a hands-on training experience, incorporating innovative approaches such as simulation-based training and tabletop exercises, to empowering participants to adeptly implement best practices in infection prevention and stay abreast of the latest developments in this critical field. The overarching objective is to curtail the incidence of healthcare-associated infections, ensuring the delivery of safe and effective patient care.

Following the commendable success of the Infection Prevention Boot Camp 2022, pertinent adjustments based on participant feedback were incorporated for the subsequent iteration, Infection Prevention Boot Camp 2023. This latest Boot Camp underwent a comprehensive redesign. Each day strategically emphasized distinct topics to cater to a broader audience, while providing real-world, hands-on interaction from each participant. Days One and Two of the Boot Camp focused on didactic learning in the morning, complemented by hands-on, real-world simulations in the afternoon, providing participants with a practical application of newly acquired skills. Day Three was exclusively tailored for leadership development, imparting insights into fostering systemic change within healthcare environments.

Highlights



18 ↑
Hours of FREE
Continuing
Education Credits



84 Counties Represented

Use your phone to scan the QR code to watch Boot Camp video highlights



Infection Prevention Boot Camp 2023 Part B Day One: Focus on the Basics

IP Boot Camp Day One was designed for frontline healthcare workers, offering knowledge and skills to adeptly combat infections within their specific patient population and setting. This intensive day focused on foundational principles of infection prevention, delving into critical subjects, encompassing modes of transmission, proper utilization of personal protective equipment (PPE), rigorous cleaning and disinfection protocols, and adherence to standard precautions. The aim of this comprehensive training was to empower healthcare professionals, enabling them to effectively mitigate the spread of infections, ensuring the safety of both patients and themselves, and fostering a secure and healthy healthcare environment. While Day One welcomed participants from various backgrounds, its primary audience was tailored to healthcare groups that typically do not receive routine infection prevention training but are frequently engaged as first responders or within healthcare settings, for both acute and long-term care facilities. Distinguished local and CDC experts provided the training and education for the attendees.



Infection Prevention Boot Camp 2023 Part B Day Two: Focus on the Infection Preventionist



Day Two was an intensive training program specifically tailored for infection preventionists and leaders in both acute and long-term care, providing them with comprehensive knowledge and skills to address the challenges of reportable diseases, antimicrobial stewardship, surveillance, outbreak management, and updated reporting requirements. Day Two emphasized the critical role infection preventionists and leadership play in containing infections. By equipping infection preventionists and leadership with advanced expertise in these areas, Day Two aimed to enhance participant's ability to proactively mitigate the risks associated with infectious diseases, drive evidence-based interventions, and optimize patient safety within healthcare settings.

Infection Prevention Boot Camp 2023 Day Three: Effecting Change in Management

Change management has been identified by the **KyIP Training Center** as a critical component to any successful infection prevention program. It involves planning, communicating, and implementing changes to existing processes, policies, and procedures to improve infection prevention practices but change can be challenging to execute, met with resistance, or require significant effort and resources. Boot Camp Day Three helped attendees refocus efforts and challenge conventional methods in the infection prevention space.

Its focus was on understanding the importance of change management and how to utilize tools and resources to effectively apply techniques and strategies in infection prevention and control practice, including the importance of communication and building relationships with stakeholders. Day three also focused on leveraging available data, including National Health Safety Network's (NHSN), the nation's most widely used healthcare-associated infection tracking system, Standard Infection Ratio (SIR) reports with a focus on strategies that will directly affect change within the infection prevention and control community and within their organizations. This data is impactful and important for organizations to understand both their antibiotic use, as well as infection ratios.

Boot Camp Analysis

The **KyIP Training Center** Senior Biostatisticians have completed a thorough analysis of the 2023 Infection Prevention Boot Camp. They scrutinized key statistical indicators to assess the program's impact. A notable aspect was the significant turnout, with a diverse array of healthcare professionals in attendance, including licensed practical nurses, registered nurses, emergency medical services personnel, infection preventionist, and administrative staff and directors.

Rigorous statistical evaluation was conducted on both the pre and post-tests, revealing a substantial improvement in participants' understanding and application of infection prevention principles. This comprehensive analysis extended to overall attendee satisfaction, which emerged remarkably high, signifying the program's effectiveness in meeting the educational needs and expectations of diverse professionals within the healthcare spectrum. These statistical insights underscore the tangible success and positive influence of the Infection Prevention Boot Camp in enhancing the knowledge and skills of our participants.

Expanded Methods

Each day of the boot camp was analyzed separately. Respondent characteristics, confidence assessments, and knowledge assessments were administered via pre- and post- boot camp surveys for days one and two. Day three only had respondent characteristics collected.

Respondent characteristics

Profession, specialty, and primary work setting were collected for each day. Respondent characteristics were reported as frequency and percentage.

Knowledge assessment

Knowledge assessments on days one and two covered materials presented during their respective days. Day one had a total of 18 knowledge questions, and day two had a total of 20 knowledge questions. Percentage correct was calculated for each question, as well as overall score on pre- and post- test. Percentage correct between pre- and post- test questions were compared using McNemar's test to assess paired answers. A paired Student's T-test was used to assess differences in overall test score between pre- and post- tests. Additionally, overall score was reported by profession and setting, as well as based on paired confidence assessment. Mean improvement in score was reported, with 95% confidence intervals.

Results

Participant characteristics are depicted in **Table 1**. A substantial percentage of participants came from long term care settings, accounting for 36-57% of participants over the course of the Boot Camp.

Table 2a depicts the question stems for the knowledge assessment for day one, as well as percent correct on pre- and post- test. Participants saw an increase in knowledge test score by 10.5 (95% CI: 7.5-13.4) percentage points. **Table 2b** depicts the change in day one knowledge assessment score by participant characteristics and confidence. Notably, a strong correlation was seen between increased or maintained confidence and test scores, with every participant who self-reported an increase in confidence showing a significant improvement on knowledge assessments for day one.

Table 3a depicts the question stems for the knowledge assessment for day two, as well as percent correct on pre- and post- test. Participants saw an even higher increase in knowledge test scores on day two, increasing by 16.7 (95% CI: 12.1-21.5) percentage points. **Table 3b** depicts the change in day one knowledge assessment score by participant characteristics and confidence. Notably, significant increases in test scores were seen for almost every subgroup of participant, including those who self-reported a decrease in confidence.

Table 1. Respondent Characteristics, Stratified by Boot Camp Day Survey

Characteristic	Day One (n=163)	Day Two (n=91)	Day 3 (n=38)
Profession (%)			
Registered Nurse	121 (74.2)	60 (65.9)	28 (73.7)
Licensed Practice Nurse	16 (9.8)	15 (16.5)	5 (13.2)
Administration	9 (5.5)	5 (5.5)	1 (2.6)
APRN/DNP	4 (2.5)	4 (4.4)	0 (0.0)
EMT/Emergency Medicine	1 (0.6)	0 (0.0)	0 (0.0)
Other Allied Health Professional	12 (7.4)	7 (7.7)	4 (10.5)
Specialty (%)			
Infection preventionist	92 (56.4)	39 (42.9)	26 (68.4)
Director of Nursing (DON)	16 (9.8)	12 (13.2)	1 (2.6)
Assistant Director of Nursing (ADON)	14 (8.6)	15 (16.5)	4 (10.5)
Quality Improvement	7 (4.3)	0 (0.0)	1 (2.6)
Nurse Educator	6 (3.7)	5 (5.5)	2 (5.3)
Clinical Coordinator/Manager	6 (3.7)	2 (2.2)	1 (2.6)
Nursing Home Administrator	5 (3.1)	3 (3.3)	1 (2.6)
Laboratory/Microbiology	3 (1.8)	3 (3.3)	0 (0.0)
Facility Director	2 (1.2)	1 (1.1)	0 (0.0)
Other	12 (7.4)	11 (12.1)	2 (5.3)
Setting (%)			
Long-term care facility	73 (44.8)	52 (57.1)	14 (36.8)
Acute care hospital	54 (33.1)	26 (28.6)	16 (42.1)
Ambulatory care/surgical center	4 (2.5)	0 (0.0)	0 (0.0)
Assisted living facility	3 (1.8)	2 (2.2)	0 (0.0)

Table 2a. Day One Paired Responses, Pre- and Post- Test Knowledge Question Scores

Question stem	Pre-test % correct	Post-test % correct	p-value
1. The FDA's 522 Study showed that up to ___% of duodenoscopes had high-concern organisms remaining after reprocessing.	29	32	0.845

2. FDA identified reusable device risks includes all except:	45	61	0.082
3. Reprocessing includes all except:	46	58	0.153
4. Risks of developing multidrug-resistant bacteria (MDRO) includes all except:	88	96	0.221
5. The most common carbapenemase-producing genes found in the carbapenem-resistant enterobacterales (CRE) (in the US) is:	45	94	0.041
6. What percentage of people colonized with Candida auris develop a bloodstream infection within one year?	58	62	0.031
7. Commonly used disinfectants in healthcare includes all except:	58	57	>0.999
8. Some of COVID-19 surrogates can live on inanimate surfaces for up to:	49	65	0.136
9. The following needs to be considered when selecting a germicide:	97	100	0.480
10. The correct sequence for removing PPE is:	62	74	0.002
11. When selecting PPE, consider all except:	93	96	0.371
12. Which gown would you select when preparing to suture a wound?	42	75	<0.001
13. The elements of germ spread includes all except:	91	80	0.061
14. One characteristic of active immunity is:	46	55	0.522
15. Seeing the potential for a problem is called:	81	83	>0.999
16. Irritation to hands in the healthcare setting may be caused by all but which:	51	72	0.001
17. Alcohol based hand sanitizer should contain at least ___ alcohol in liquid, gel, or foam:	72	90	0.006
18. Organisms that are difficult to kill with alcohol-based hand sanitizer include all except:	38	57	0.014
Total percent correct	62	73	<0.001

Table 2b. Day One Paired Responses, Pre- and Post- Test Scores by Participant Characteristic

Characteristic	Mean Pre-test Score	Mean Post-Test Score	Mean Paired Difference (95% Confidence Interval)
Profession			
Registered Nurse	64.0	72.8	8.9 (5.3 – 12.5)
Licensed Practice Nurse	55.6	66.7	11.1 (3.8 – 18.4)
Administration	52.8	65.3	12.5 (3.2 – 21.8)
APRN/DNP	61.1	77.8	16.7 (-5.1 – 38.5)
Other Allied Health Professional	64.6	80.6	16.0 (5.1 – 26.9)

Setting			
Long-term care facility	58.0	68.1	10.1 (5.9 – 14.3)
Acute care hospital	66.7	76.6	9.9 (4.1 – 15.7)
Assisted living facility	64.8	77.8	13.0 (-2.8 – 28.8)
Other	60.5	73.5	13.0 (5.1 – 20.9)
Confidence in hand hygiene knowledge			
Increased or no change	62.1	73.1	11.0 (7.8 – 14.2)
Decreased	62.2	69.4	7.2 (-0.9 – 15.3)
Confidence in chain of infection knowledge			
Increased or no change	61.8	72.7	10.9 (7.9 – 13.9)
Decreased	66.7	70.8	4.2 (-7.9 – 16.3)
Confidence in environmental cleaning knowledge			
Increased or no change	62.1	72.8	10.7 (7.8 – 13.6)
Decreased	61.1	63.9	2.8 (-24.4 – 30.0)
Confidence in standard precaution knowledge			
Increased or no change	62.1	72.5	10.4 (7.4 – 13.4)
Decreased	61.8	72.9	11.1 (0.2 – 22.0)
Confidence in correct PPE knowledge			
Increased or no change	62.0	72.9	10.8 (7.9 – 13.7)
Decreased	62.7	69.8	7.1 (-6.2 – 20.5)
Confidence in cleaning medical device knowledge			
Increased or no change	61.9	72.9	11.0 (8.1 – 14.0)
Decreased	66.7	64.8	-1.9 (-20.0 – 16.3)
Confidence in infection prevention knowledge			
Increased or no change	61.9	72.4	10.5 (7.5 – 13.6)
Decreased	66.7	75.9	9.3 (-0.3 – 18.9)

Table 3a. Day Two Paired Responses, Pre- and Post- Test Knowledge Question Scores

Question stem	Pre-test % correct	Post-test % correct	p-value
1. One of the main drivers of antimicrobial resistance is:	87	92	0.724
2. CDC Core elements of antimicrobial stewardship include all except:	56	82	0.025
3. Which of the following is NOT true about risks to people who report a penicillin allergy:	59	95	0.025
4. Lab Procedures include all except:	67	77	0.423
5. Microbiology culture procedures are followed exactly and do not allow for judgement or interpretation.	72	92	0.027
6. Which of the following is not true?	67	87	0.027
7. It is important to report communicable diseases to the public health department so that they can:	56	64	0.505
8. Which of the following must be urgently (within 24 hours) reported to the Kentucky Health Department:	23	62	< 0.001
9. Elements of an outbreak investigation include all except:	56	74	0.046
10. A positive acid fast bacilli (AFB) sputum smear should be reported within:	59	41	0.121
11. Pharmacists are required to report to the local health department if 2 or more medications used for the initial treatment of active tuberculosis are dispensed.	92	100	0.248
12. A chest x-ray is indicated in all except:	59	85	0.009
13. Point of care ultrasound probes require which type of cleaning:	44	51	0.606
14. Training on medical devices should take place:	90	92	>0.999
15. Things to consider when choosing a medical device include all except:	62	92	0.001
16. The goals of initial containment response include which of these:	33	38	0.773
17. Candida auris is a ___ :	26	82	<0.001
18. It is recommended that patients with an MDRO be rescreened after treatment.	59	85	0.004
19. Influential facilities include which of the following:	10	51	<0.001
20. Highly connected facilities disproportionately influence regional MDRO prevalence.	38	18	0.043
Total score	55	73	<0.001

Table 3b. Day Two Paired Responses, Pre- and Post- Test Scores by Participant Characteristic

Characteristic	Mean Pre-test Score	Mean Post-Test Score	Mean Paired Difference (95% Confidence Interval)
Profession			
Registered Nurse	54.0	71.6	17.6 (11.6 – 23.5)

Licensed Practice Nurse	53.8	66.3	12.5 (2.3 – 22.7)
APRN/DNP	71.7	81.7	10.0 (0.2 – 19.8)
Other Allied Health Professional	60.0	81.7	21.7 (9.9 – 33.5)
Setting			
Long-term care facility	51.4	69.3	17.9 (9.5 – 26.3)
Acute care hospital	55.6	72.9	17.4 (9.8 – 24.9)
Assisted living facility	62.5	67.5	5.0 (-4.8 – 14.8)
Other	56.3	77.5	21.3 (10.4 – 32.1)
Confidence in hand hygiene knowledge			
Increased or no change	55.7	72.7	17.0 (12.1 – 21.9)
Decreased	57.5	70.0	12.5 (7.6 – 17.4)
Confidence in chain of infection knowledge			
Increased or no change	55.1	72.2	17.1 (12.4 – 21.9)
Decreased*	-	-	-
Confidence in environmental cleaning knowledge			
Increased or no change	54.9	72.7	17.8 (13.2 – 22.5)
Decreased	72.5	70.0	-2.5 (-17.2 – 12.2)
Confidence in standard precaution knowledge			
Increased or no change	55.3	72.4	17.2 (12.3 – 22.0)
Decreased	65.0	75.0	10.0 (0.2 – 19.8)
Confidence in correct PPE knowledge			
Increased or no change	55.3	72.4	17.2 (12.3 – 22.0)
Decreased	65.0	75.0	10.0 (0.2 – 19.8)
Confidence in cleaning medical device knowledge			
Increased or no change	56.2	72.4	16.2 (11.4 – 21.1)
Decreased	47.5	75.0	27.5 (22.6 – 32.4)

*Results are suppressed due to only one participant noting a decrease in score

Live Training Events

Live training events epitomize the dedication of KyIP Training Center to advancing infection prevention strategies through immersive simulations, hands-on training, and specialized programs tailored to equip frontline healthcare workers with the skills necessary to combat infectious diseases effectively. As we navigate the complexities of healthcare in an ever-evolving landscape, these training events serve as pivotal moments of learning and collaboration, fostering resilience and preparedness within our healthcare communities.

Jefferson County Public School (JCPS) Vaccination Training Event – January 2023

School nurses play a crucial role in promoting the health and safety of students, and vaccination is an essential tool in preventing the spread of infectious diseases. In this presentation, **KyIP Training Center** provided hands-on training for school nurses on the administration of vaccines including safe injection practice, contraindications and adverse events, and bookkeeping, as well as addressing common vaccine misconceptions, addressing hesitancy, and providing resources and education on vaccine and vaccine-preventable diseases. In total, 198 JCPS school nurses were trained.

Kentucky Nurses Association Presentation on Mobile Vaccination – February 2023

Mobile vaccination clinics are becoming an increasingly important tool in the fight against infectious diseases, and nurses play a crucial role in ensuring the success and safety of these clinics. In the presentation to the Kentucky Nurses Association, **KyIP Training Center** discussed the importance of mobile vaccination training for nurses and the key principles of safe injection practice, including proper handling and storage of vaccines, vaccine administrations techniques, contraindications and adverse reactions, and record keeping. There were 7 nurses trained at this event.

Multi-day Kentucky Nurses Association Vaccination Event – May 2023

Due in part to the COVID-19 pandemic, the Kentucky Nurses Association (KNA) is on a mission to get more people vaccinated. The **KyIP Training Center**, in partnership with KNA, had nurses from the Training Center participate in a free vaccination event spanning Saturday and Sunday. Nurses provided education and vaccination to the community.

Norton Healthcare Environmental Services Training Event - November 2023

Ensuring that all healthcare workers are trained and feel confident in infection prevention practices is an integral part of the work that **KyIP Training Center** provides. While many simulation trainings are completed in large settings, such as Boot Camp, these simulations can also be completed in a unit or department. **KyIP Training Center staff** went to a shift huddle for the Environmental Services team where they conducted a brief education with follow up simulation activity with the team around donning and doffing of personal protective equipment. Approximately 30 Environmental Services team members were in this training.

Appalachia Regional Hospital (ARH) Bite Sized Education – Monthly through June 2024

Monthly bite-sized training at Appalachia Regional Hospital emphasizes both the "train the trainer" model as well as the bite-sized education, enhancing staff skills in delivering effective IP education. Topics cover instructional techniques, engaging learners, and ensuring knowledge retention. The concise sessions empower infection preventionists to efficiently disseminate knowledge throughout the hospital, promoting continuous infection prevention techniques.

Continuing Education

Continuing education (CE) credits have been identified by **KyIP Training Center** as an important component to improving access to education with special consideration to equity and opportunity. The **KyIP Training Center** has developed free continuing education videos available globally through myCME, both locally and globally for a full array of healthcare professionals. A full list of available CE can be found in Appendix B.

Continuing Education Impact Analysis

The **KyIP Training Center** Senior Biostatisticians completed a statistical analysis of the Continuing Education (CE) credits offered in 2023 unveiling the program's substantial reach and impact. The provision of complimentary CE credits attracted a diverse cohort of participants, including healthcare professionals from various disciplines seeking to augment their professional development. The analysis encompasses a comprehensive breakdown of participant demographics, revealing a broad representation across professions, geographical locations, and healthcare sectors. Statistical evaluation of post-program assessments and participant feedback illustrates a high level of engagement and satisfaction, underscoring the program's efficacy in delivering meaningful and relevant educational content.

Result Highlights

39 Modules

289 Kentucky
Learners

19 Healthcare
Professions

80.6% Total Post-test Pass Rate

45 Specialties

17,052 individuals representing **100** countries accessed
KyIP Training Center CEs through MyCME

Expanded Methods and Results

Population and Setting

Haymarket Medical Education's myCME is a digital platform offering more than 450 continuing education healthcare professionals [2]. Utilization metrics and standardized information was collected from users who accessed KyIP activities available on myCME during 2023. A learner was defined as someone who accessed this educational content and started to consume the information.

Study Variables

The number of visits for each activity and the following data was summarized: geographical location of all learners, and primary profession, primary specialty, posttest completion, and number of CME credits was reported and stratified by

learners from Kentucky, other US states, and non-US learners to provide a more granular view of how Kentucky learners compared to other learners.

Statistical Analysis

Categorical data was summarized as frequency and percent. Total CME credits awarded was also reported,

Population-Standardized Rates

To account for differences in the underlying population of the US, population-standardized rates were calculated for all states as the observed number of learners divided by the underlying population. The estimated population was abstracted from the American Community Survey (ACS) [1]. Standardized rates were reported per 100,000 residents.

Results

During 2023, 39 modules developed by KyIP personnel were available through Haymarket for continuing medical education (CME). The distribution of topics accessed by all learners in 2023 is summarized in **Table 1**.

Table 1. Distribution of topics among all learners through 2023

Overall, N	17,052
Topic	n (%)
Urinary Tract Antibiotic Drug Review	2193 (12.9)
Penicillin Drug Class Review	1427 (8.4)
Infectious Disease Epidemiology	1290 (7.6)
How To Read and Critique Medical Literature	705 (4.1)
Cleaning And Disinfecting Medical Equipment	654 (3.8)
Antimicrobial Stewardship Programs: Are We Forgetting Something?	642 (3.8)
Penicillin Allergy Review	627 (3.7)
CAUTI: Catheter-Associated Urinary Tract Infections	612 (3.6)
Types Of Research Studies and Measures of Association	567 (3.3)
Overview Of Clostridium Difficile	515 (3.0)
Becoming A Proficient Infection Preventionist	508 (3.0)
Tetracycline Drug Class Review	491 (2.9)
Network Analysis: Making Quantitative Data Qualitative	475 (2.8)
A Primer in Machine Learning in Infection Prevention and Control	468 (2.7)
Hand Hygiene and Asepsis	440 (2.6)
MRSA Antibiotic Drug Review	431 (2.5)
Infection Prevention Program for Behavioral Health Settings In 7 Steps	397 (2.3)
Utilizing Simulation Techniques for Chlorhexidine Gluconate Bathing	367 (2.2)
Balancing Home Life and Safety in Long-Term Care Settings	361 (2.1)
Use Of Simulation to Promote Best Practice for Obtaining Blood Cultures	352 (2.1)

Infection Prevention Program for Home Health Settings In 7 Steps	323 (1.9)
Macrolide Drug Class Review	316 (1.9)
Literature Review/Meta Analysis: Data Source Dependent	266 (1.6)
Fluoroquinolone Drug Class Review	249 (1.5)
Safe Injection Practices	229 (1.3)
Principles Of Antimicrobials	213 (1.2)
Cephalosporin, Carbapenem, and Monobactam Class Review	212 (1.2)
Becoming A Certified Infection Preventionist	191 (1.1)
Antifungal Drug Class Review	179 (1.0)
Central Line-Associated Bloodstream Infections	173 (1.0)
How Many People Are Getting Sick: Incidence and Prevalence?	171 (1.0)
Becoming A Professional Infection Preventionist	168 (1.0)
Large Language Models and Me: A Tutorial with ChatGPT	152 (0.9)
Personal Protective Equipment	149 (0.9)
How We Go Wrong in Study Design: Errors and Bias	144 (0.8)
Measures Of Association for Infection Control Professionals	138 (0.8)
Enhancing Infection Control: Mastering Standard Precautions	103 (0.6)
An Introduction to Geospatial Epidemiology	83 (0.5)
An Introduction to Statistical Process Control	71 (0.4)

A total of 17,052 individuals representing 100 countries accessed educational content available through Haymarket in 2023. **Table 2** summarizes the country of origin for our 2023 learners. Over 80% of learners were residents of the US.

Table 2. Country of origin among 2023 learners.

N = 17,052			
Country, n (%)			
United States	13,775 (80.8)	Israel	29 (0.2)
Qatar	844 (4.9)	Cayman Islands	27 (0.2)
Malaysia	449 (2.6)	Bahrain	26 (0.2)
Canada	186 (1.1)	Macao	24 (0.1)
United Arab Emirates	183 (1.1)	Saudi Arabia	22 (0.1)
Korea	160 (0.9)	Azerbaijan	19 (0.1)
India	134 (0.8)	Argentina	17 (0.1)

Jamaica	100 (0.6)	Tunisia	17 (0.1)
Panama	66 (0.4)	Bahamas	15 (0.1)
Philippines	50 (0.3)	Brazil	15 (0.1)
United Kingdom	43 (0.3)	Moldova	15 (0.1)
Gabon	31 (0.2)	Not reported	506 (3.0)
Mauritius	31 (0.2)		

10 or less participants from the following countries: Greece, Laos, Nigeria, Oman, Bermuda, Egypt, Singapore, South Africa, Vatican City, Brunel Darussalam, Iran, New Caledonia, Albania, Kuwait, Pakistan, Puerto Rico, Romania, Somalia, Thailand, Algeria, Barbados, Colombia, Georgia, Italy, Japan, Kenya, Mexico, Mongolia, Nepal, New Zealand, Sudan, British Virgin Islands, Yugoslavia, Australia, Bulgaria, Cuba, Indonesia, Jordan, Lebanon, Seychelles, Sri Lanka, Taiwan, Zimbabwe, Armenia, Ethiopia, Fiji Islands, France, Germany, Hong Kong, Libya, Montenegro, Portugal, Turkey, Venezuela, Afghanistan, Bangladesh, Botswana, Denmark, Dominica, Ghana, Grenada, Guatemala, Hungary, Lithuania, Montserrat, Netherlands, North Korea, Peru, Saint Lucia, Spain, Tanzania, Turks and Caicos Islands, Uganda, Uruguay, Vietnam, and Yemen.

Table 3. Distribution of states among learners from the United States and the population-standardized rate expressed per 100,000 residents. Data is sorted by rates per 100,000 residents.

Overall					
N = 13,775					
State	n (%)	Rate per 100,000	State	n (%)	Rate per 100,000
Hawaii	103 (0.7)	9	Idaho	72 (0.5)	5
Kentucky	289 (2.1)	9	Indiana	268 (1.9)	5
Kansas	174 (1.3)	8	Massachusetts	261 (1.9)	5
Maryland	358 (2.6)	8	Michigan	363 (2.6)	5
North Carolina	593 (4.3)	8	Mississippi	113 (0.8)	5
New York	1262 (9.2)	8	Nebraska	66 (0.5)	5
Vermont	42 (0.3)	8	Nevada	115 (0.8)	5
Montana	56 (0.4)	7	Oklahoma	134 (1.0)	5
New Hampshire	75 (0.5)	7	Rhode Island	39 (0.3)	5
West Virginia	89 (0.6)	7	Tennessee	267 (1.9)	5
Alabama	217 (1.6)	6	Texas	1033 (7.5)	5
Arkansas	138 (1.0)	6	California	1156 (8.4)	4
Arizona	303 (2.2)	6	Illinois	384 (2.8)	4
Colorado	258 (1.9)	6	Maine	39 (0.3)	4

Connecticut	161 (1.2)	6	Minnesota	141 (1.0)	4
Georgia	449 (3.3)	6	Missouri	156 (1.1)	4
Louisiana	191 (1.4)	6	North Dakota	21 (0.2)	4
New Jersey	403 (2.9)	6	New Mexico	65 (0.5)	4
Ohio	529 (3.8)	6	Oregon	120 (0.9)	4
Pennsylvania	588 (4.3)	6	Utah	75 (0.5)	4
South Carolina	214 (1.6)	6	Washington	232 (1.7)	4
South Dakota	36 (0.3)	6	Wisconsin	189 (1.4)	4
Virginia	398 (2.9)	6	Wyoming	18 (0.1)	4
Delaware	34 (0.2)	5	Alaska	16 (0.1)	3
Florida	732 (5.3)	5	Puerto Rico	5 (0.0)	1
Iowa	112 (0.8)	5			

Table 4. Primary profession of learners stratified by Kentucky learners, Other US learners, and non-US learners.

	Kentucky learners	Other US learners	Non-US learners
	289	13,486	3,277
Primary profession, n (%)			
Physician Assistant	47 (16.3)	4298 (31.9)	244 (7.4)
Nurse	44 (15.2)	2110 (15.6)	1054 (32.2)
Physician	26 (9.0)	2500 (18.5)	623 (19.0)
Nurse Practitioner	93 (32.2)	2130 (15.8)	306 (9.3)
Pharmacist	60 (20.8)	1393 (10.3)	321 (9.8)
Other Healthcare Professional	16 (5.5)	860 (6.4)	620 (18.9)
Student	3 (1.0)	113 (0.8)	47 (1.4)
Resident	0 (0.0)	19 (0.1)	29 (0.9)
Dentist	0 (0.0)	5 (0.0)	18 (0.5)
Consumer/Patient	0 (0.0)	14 (0.1)	4 (0.1)
Psychologist	0 (0.0)	10 (0.1)	3 (0.1)
Dietician / Nutritionist	0 (0.0)	10 (0.1)	2 (0.1)
Chiropractor	0 (0.0)	11 (0.1)	0 (0.0)
Optometrist	0 (0.0)	5 (0.0)	6 (0.2)

Certified Diabetes Educator	0 (0.0)	3 (0.0)	0 (0.0)
Genetic Counselor	0 (0.0)	3 (0.0)	0 (0.0)
Physical Therapist	0 (0.0)	1 (0.0)	0 (0.0)
Respiratory Therapist	0 (0.0)	1 (0.0)	0 (0.0)

Table 5. Primary specialty reported by learners stratified by Kentucky learners, Other US learners, and non-US learners.

	Kentucky learners	Other US learners	Non-US learners
	289	13,486	3,277
Primary specialty, n (%)			
Family Medicine / General Practice	65 (22.5)	2395 (17.8)	534 (16.3)
Surgery	9 (3.1)	835 (6.2)	121 (3.7)
Pharmacy	31 (10.7)	729 (5.4)	196 (6.0)
Internal Medicine	17 (5.9)	745 (5.5)	131 (4.0)
Emergency Medicine	3 (1.0)	569 (4.2)	169 (5.2)
Orthopedics	9 (3.1)	633 (4.7)	43 (1.3)
Infectious Disease	68 (23.5)	469 (3.5)	113 (3.4)
Pediatrics	10 (3.5)	508 (3.8)	97 (3.0)
Cardiology	0 (0.0)	400 (3.0)	187 (5.7)
Psychiatry	2 (0.7)	435 (3.2)	34 (1.0)
Obstetrics / Gynecology	8 (2.8)	317 (2.4)	102 (3.1)
Urology	0 (0.0)	350 (2.6)	13 (0.4)
Dermatology	1 (0.3)	252 (1.9)	96 (2.9)
Critical Care Medicine	6 (2.1)	251 (1.9)	69 (2.1)
Geriatric Medicine	2 (0.7)	249 (1.8)	59 (1.8)
Oncology	1 (0.3)	275 (2.0)	33 (1.0)
Public Health / Preventive Medicine	5 (1.7)	183 (1.4)	89 (2.7)
Hospitalist	3 (1.0)	204 (1.5)	60 (1.8)
Neurology	7 (2.4)	183 (1.4)	31 (0.9)
Pain Medicine	0 (0.0)	205 (1.5)	6 (0.2)
Long-Term Care	16 (5.5)	134 (1.0)	57 (1.7)
Hematology / Oncology	3 (1.0)	180 (1.3)	16 (0.5)

Gastroenterology / Proctology	0 (0.0)	153 (1.1)	18 (0.5)
Radiology / Nuclear Medicine	0 (0.0)	123 (0.9)	41 (1.3)
Anesthesiology	0 (0.0)	137 (1.0)	26 (0.8)
Pulmonology	0 (0.0)	141 (1.0)	17 (0.5)
Physical Medicine / Rehabilitation	0 (0.0)	73 (0.5)	76 (2.3)
Nephrology	1 (0.3)	54 (0.4)	59 (1.8)
Pathology	0 (0.0)	53 (0.4)	31 (0.9)
Allergy / Immunology	0 (0.0)	60 (0.4)	19 (0.6)
Otolaryngology	0 (0.0)	77 (0.6)	0 (0.0)
Diabetes	2 (0.7)	54 (0.4)	20 (0.6)
Complementary / Alternative Medicine	0 (0.0)	51 (0.4)	12 (0.4)
Ophthalmology	0 (0.0)	44 (0.3)	11 (0.3)
Bariatric Medicine	0 (0.0)	52 (0.4)	2 (0.1)
Infusion Therapy	0 (0.0)	50 (0.4)	0 (0.0)
Endocrinology	0 (0.0)	27 (0.2)	13 (0.4)
Dental	0 (0.0)	6 (0.0)	33 (1.0)
Rheumatology	0 (0.0)	28 (0.2)	7 (0.2)
Hematology	0 (0.0)	8 (0.1)	20 (0.6)
Sports Medicine	0 (0.0)	18 (0.1)	1 (0.0)
Nutrition	0 (0.0)	5 (0.0)	2 (0.1)
Optometry	0 (0.0)	1 (0.0)	4 (0.1)
Surgery-Orthopedic	0 (0.0)	0 (0.0)	2 (0.1)
Other	18 (6.2)	1751 (13.0)	587 (17.9)
Not reported	2 (0.7)	19 (0.1)	20 (0.6)

Table 6. Distribution of counties among the addresses of Kentucky learners

Overall			
N = 276			
County, n (%)			
Jefferson	97 (35.1)	Wayne	4 (1.4)
Fayette	39 (14.1)	Adair	3 (1.1)
Daviess	21 (7.6)	Franklin	3 (1.1)
Pike	15 (5.4)	Hardin	3 (1.1)
Green	9 (3.3)	Powell	3 (1.1)
Madison	7 (2.5)	Pulaski	3 (1.1)
Boone	6 (2.2)	Boyle	2 (0.7)
Bullitt	6 (2.2)	Lyon	2 (0.7)
Campbell	6 (2.2)	Breathitt	1 (0.4)
Carter	5 (1.8)	Floyd	1 (0.4)
McCracken	5 (1.8)	Grayson	1 (0.4)
Barren	4 (1.4)	Johnson	1 (0.4)
Fulton	4 (1.4)	Laurel	1 (0.4)
Greenup	4 (1.4)	Meade	1 (0.4)
Hopkins	4 (1.4)	Nelson	1 (0.4)
Kenton	4 (1.4)	Perry	1 (0.4)
Scott	4 (1.4)	Rowan	1 (0.4)
Warren	4 (1.4)		

Table 7. Posttest passing rate and total number of continuing medical education (CME) credits claimed stratified by Kentucky learners, Other US learners, and non-US learners.

	Kentucky learners	Other US learners	Non-US learners	p-value
	289	13,486	3,277	
Passed Posttest, n (%)	233 (80.6)	10,259 (76.1)	2,578 (78.7)	0.002*
CME Claimed (total)	174.75	7,885.50	2,109.75	
*P-value from Chi-squared test of independence				

Outreach



KyIP Training Center has employed a multifaceted outreach strategy to effectively reach and engage healthcare professionals across the state. Leveraging the dynamic nature of social media platforms, including X (formerly known as Twitter), Facebook, and LinkedIn, we have cultivated an interactive online presence, disseminating relevant information, updates, and engaging content to foster a sense of community. The **KyIP Training Center's** informative newsletters serve as a direct communication channel, providing in-depth insights into upcoming events, educational opportunities, and noteworthy infection prevention topics. **KyIP Training Center's** website stands as a comprehensive hub, offering a centralized repository for resources, training materials, and event details. This strategic and diversified outreach approach ensures that healthcare professionals have varied channels through which they can access pertinent information, actively participate in discussions, and stay abreast of the latest developments within the **KyIP Training Center**.

Grand Rounds Presentations

Every week, in collaboration with Norton Infectious Diseases Institute (NIDI), **KyIP Training Center** offers free, open, virtual Grand Rounds presentations on a wide variety of topics. The Grand Rounds presentation lasts approximately 30 minutes with 15 additional minutes available for questions from the audience. Recordings of each session are uploaded to YouTube and publicly viewable. Every month, presentations in infection prevention and control, as well as microbiology and antimicrobial stewardship are presented. A full list of Grand Rounds Sessions can be found in Appendix A. Key findings for Grand Rounds are as follows:

258,600 total impressions

984.8 Total Hours Watched
528% increase from 2022

Add 249 Subscribers for a total of 384 subscribers
168% increase from 2022

43 Videos Posted in 2023
82 Videos Posted Since Inception

12,368 total views
490% increase from 2022

Office Hours

Beginning in late 2023, KyIP Training Center offers weekly office hours to discuss topics related to infection prevention and control. Office hours are intended for healthcare professionals to drop in and ask questions, seek guidance, or discuss concerns about infection prevention and control in their facility or organization.

Participants can “drop in” any time during the hour and spend as little as 5 minutes or take the full hour to chat with KyIP Training Center infection prevention experts and staff in various areas such as infection prevention, project management and biostatistics. There is never a fee to attend office hours.

During office hours, attendees can discuss a variety of topics related to infection prevention and control, such as:

- Appropriate use of personal protective equipment
- Guidelines and protocols



- Strategies for improving infection prevention and control practice
- Best practices for monitoring and reporting infections
- Updates on new developments and emerging issues related to infection prevention and control
- Patient cases and patient related topics

The goal of office hours is to provide a forum for discussion, education, and support for healthcare professionals involved in infection prevention and control. This is a valuable opportunity for attendees to connect with experts in the field and learn from their experiences, as well as to network and collaborate with peers.

Newsletter

The **KyIP Training Center** newsletter is distributed via email monthly to over 1,100 subscribers. Newsletter content includes relevant infection prevention and control news and updates. Each newsletter has a focus topic, such as patient safety. In 2023, **KyIP Training Center** published 10 issues, reached over 1,100 members monthly with an average open rate of 35%. **KyIP Training Center** has completed an evaluation of the email platform, Constant Contact, and determined, despite limitations, to be the most accessible for the end user. Similar platforms have been evaluated with no significant change in viewership. The most notable being firewall limitations set by the receiving entity. To mitigate issues, the newsletter is also posted on the **KyIP Training Center** website, which is publically accessible.

1,100+ Subscribers

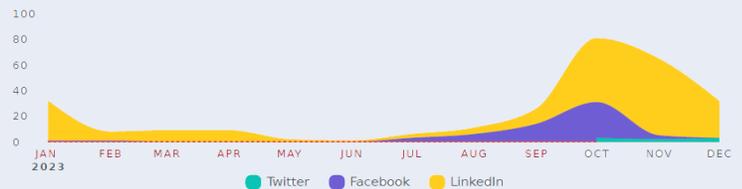
**10 Issues
in 2023**

35% open rate
(36% open rate industry benchmark)

Facebook [Click here to visit Facebook](#)

KyIP Training Center's Facebook presence has emerged as a dynamic platform for disseminating pertinent information and fostering engagement on crucial infection prevention topics. Through regular updates, **KyIP Training Center** has created an interactive space that highlights ongoing events, educational initiatives, and significant achievements within the center. This dedicated Facebook hub serves as a central repository for professionals to stay informed about the latest happenings, share insights, and engage in discussions surrounding infection prevention. The platform not only amplifies our commitment to knowledge dissemination but also encourages a vibrant community of healthcare professionals to stay connected and involved in the continuous advancement of infection prevention practices.

Audience Growth

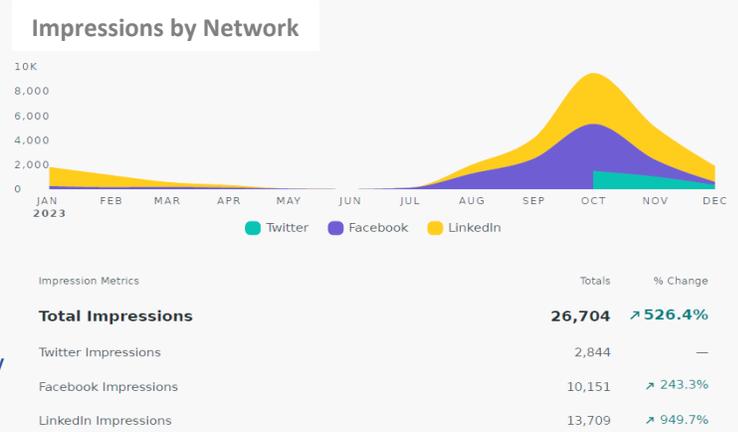


Audience Metrics

	Totals	% Change
Total Net Audience Growth	282	↗ 370%
Twitter Net Follower Growth	8	—
Facebook Net Follower Growth	56	↗ 100%
LinkedIn Net Follower Growth	218	↗ 581.3%

LinkedIn [Click here to visit LinkedIn](#)

KyIP Training Center's LinkedIn presence stands as a professional hub, emphasizing infection prevention topics and key developments within our center. Through curated updates, **KyIP Training Center** provides a focused channel for healthcare professionals to stay informed about ongoing events, educational initiatives, and noteworthy accomplishments at KyIP. This platform serves as a dedicated space for fostering meaningful discussions and sharing insights related to infection prevention practices. By leveraging the professional network on LinkedIn, KyIP aims to create an engaged community where healthcare professionals can connect, exchange ideas, and contribute to the collective advancement of infection prevention strategies.



X (Formerly Known as Twitter) [Click here to visit X](#)

KyIP Training Center's X engagement is evolving as we strategically focus on fostering a vibrant community. Emphasizing infection prevention topics and key developments, our tweets serve as timely updates for healthcare professionals. We recognize the need for refinement in X metrics and have actively implemented a strategy to enhance engagement, with intention to garner more users and activity on the platform.

Website [\(Click here to visit the website\)](#)

KyIP Training Center's website redesign that occurred in 2023 marks a pivotal milestone in the ongoing commitment to enhancing accessibility and user experience. This strategic overhaul has resulted in a significant increase in website traffic and improved accessibility for end users. By streamlining navigation and optimizing content organization, **KyIP Training Center** has ensured that visitors can easily access relevant information and resources. Additionally, the redesign has facilitated the storage and dissemination of a wealth of valuable information, empowering healthcare professionals with comprehensive resources to support their infection prevention efforts.

25,074 all-time views

Total users up 205% from 2022

KyIP Training Center Listens



Central to **KyIP Training Center's** commitment to adapt and address the evolving needs of healthcare professionals across the Commonwealth, **KyIP Training Center** used several modes of surveying including 11 live listening sessions, a topics survey, and a more comprehensive learning needs assessment. After each survey was closed, a comprehensive statistical analysis was employed to understand and value the information.

The Learning Needs Assessment served as a foundational tool, offering a quantitative insight into the specific educational requirements identified by health professionals. Complementing this, Listening Sessions provided a qualitative avenue, allowing for in-depth discussions to glean nuanced perspectives directly from the healthcare community. Moreover, the Topics Survey facilitated a targeted exploration of preferences and priorities for future training initiatives. The statistical synthesis of these approaches not only affirms **KyIP Training Center's** dedication to data-driven decision-making but also empowered to tailor its programs to precisely align with the identified learning needs and preferences of healthcare professionals across the state.

Expanded Methods

Survey administration

The Learning Needs Assessment survey was open from August to October, 2023, and distributed by newsletter, social media, and email.

Survey variables

The Learning Needs Assessment asked questions regarding respondents roles, work settings, exposures, learning preferences, as well as details regarding Project Firstline-aligned topics and need for advanced training.

Statistical analysis

Survey variables are reported as frequency and percentage.

Results

The survey received a total of 151 complete responses. **Table 1** depicts the respondent characteristics. Most respondents were infection preventionists or nurses, with responses from 40 counties across the state of Kentucky, representing a sampling of Eastern, Central, and Western Kentucky.

Table 2 depicts the learning preferences of respondents. Respondents preferred the option of in-person and virtual learning. Interactive simulations were the most preferred format of education. One-hour learning sessions could be utilized by nearly 84% of all respondents, with nearly 28% able to commit at least half a day to education.

Project Firstline-aligned topics are depicted in **Table 3**. The majority of topics were required knowledge by respondents. Generally, about 5-10% of respondents reporting a requirement in knowledge on a topic had not received any training on the topic in the past 3 years. Notably, the least number of participants required knowledge about safe injection practices, yet among those requiring it, nearly 15% had not had any training on safe injection practices in the last 3 years.

Table 4 depicts advanced topic interest, which was indicated by nearly two-thirds of study participants. COVID-19 information was the most requested, followed by antibiotic resistance and *C. difficile*.

Table 1. Respondent Characteristics

Characteristic	All respondents (n=151)
Primary role (%)	
Infection prevention (IP)	67 (44.4)
Nurse	43 (28.5)
Advanced practice nurse	10 (6.6)
Emergency medical services	5 (3.3)
Dietary services	2 (1.3)
Pharmacist	2 (1.3)
Epidemiologist	1 (0.7)
Therapists	1 (0.7)
Other healthcare professionals	20 (13.2)
Primary work setting (%)	
Hospital	96 (64.9)
Outpatient	23 (15.5)
Congregate Care	20 (13.5)
Public Health / Health Department	7 (4.7)
Behavioral Health	2 (1.4)
Belong to a professional organization (%)	100 (73.0)
Direct contact with patients or patient environment (%)	117 (77.5)
Exposure (%)	
Direct contact	101 (66.9)
Blood	63 (41.7)
Droplets	86 (57.0)
Aerosols	71 (47.0)
Prepare or administer medications (%)	49 (32.5)
Intramuscular	38 (77.6)
Oral	34 (69.4)

Intravenous	32 (65.3)
Subcutaneous	30 (61.2)
Intranasal	22 (44.9)
Inhaled	19 (38.8)
Rectal	18 (36.7)
Vaginal	11 (22.4)

Table 2. Learning Preferences

Characteristic	All respondents (n=151)
How do you prefer to receive education? (%)	
A combination of in-person and virtual	78 (56.9)
Virtual	36 (26.3)
In-person	23 (16.8)
What format of education would be most helpful to you?* (%)	
Interactive scenario-based settings (i.e. simulations)	89 (65.0)
Self-paced / Reading	78 (56.9)
Interactive discussion with experts	75 (54.7)
Interactive discussion with peers	60 (43.8)
Lectures	60 (43.8)
How long can you dedicate to training or educational materials? (%)	
A full day	27 (19.7)
Up to half a day	12 (8.8)
Up to two hours	14 (10.2)
Up to one hour	62 (45.3)
Less than 30 minutes	22 (16.1)
How do you prefer to receive information?* (%)	
Newsletters/email	118 (86.1)
Professional websites	74 (54.0)

Podcasts	38 (27.7)
Social media	29 (21.2)

*Multiple answers could be selected for this question

Table 3. Project Firstline Training Topics

Prompt	All respondents (n=151)
Does your job require knowledge about personal protective equipment? (%)	148 (98.7)
Have you received training on PPE? (%)	
Within the last year	115 (77.7)
Between 1 to 3 years ago	17 (11.5)
More than 3 years ago or never	16 (10.8)
Does your job require knowledge about hand hygiene (%)	148 (99.3)
Have you received training on hand hygiene? (%)	
Within the last year	129 (87.2)
Between 1 to 3 years ago	11 (7.4)
More than 3 years ago or never	8 (5.4)
Does your job require knowledge about safe injection practices (%)	117 (79.1)
Have you received training on safe injection practices? (%)	
Within the last year	79 (67.5)
Between 1 to 3 years ago	21 (17.9)
More than 3 years ago or never	17 (14.5)
Does your job require knowledge about sharps safety? (%)	134 (90.5)
Have you received training on sharps safety? (%)	
Within the last year	101 (75.4)
Between 1 to 3 years ago	22 (16.4)
More than 3 years ago or never	11 (8.2)
Does your job require knowledge about environmental cleaning and disinfection? (%)	137 (93.2)
Have you received training on environmental cleaning and disinfection? (%)	
Within the last year	113 (82.5)

Between 1 to 3 years ago	13 (9.5)
More than 3 years ago or never	11 (8.0)
Does your job require knowledge about how infections spread? (%)	140 (95.9)
Have you received training on how infections spread? (%)	
Within the last year	120 (85.7)
Between 1 to 3 years ago	13 (9.3)
More than 3 years ago or never	7 (5.0)
Does your job require knowledge about source control? (%)	122 (84.1)
Have you received training on source control? (%)	
Within the last year	94 (77.0)
Between 1 to 3 years ago	19 (15.6)
More than 3 years ago or never	9 (7.4)
Does your job require knowledge about cough etiquette? (%)	130 (91.5)
Have you received training on cough etiquette? (%)	
Within the last year	104 (80.0)
Between 1 to 3 years ago	15 (11.5)
More than 3 years ago or never	11 (8.5)
Does your job require knowledge about transmission-based (isolation) precautions? (%)	131 (92.9)
Have you received training on transmission-based (isolation) precautions? (%)	
Within the last year	108 (82.4)
Between 1 to 3 years ago	15 (11.5)
More than 3 years ago or never	8 (6.1)

Table 4. Advanced Trainings

Characteristic	All respondents (n=151)
Do you work in a setting that requires more advanced trainings? (%)	99 (65.6)
What advanced trainings do you require? (%)	
COVID	72 (72.7)
Antibiotic resistance	67 (67.7)
Clostridioides difficile (C. diff)	65 (65.7)
Outbreak and pandemic preparedness	63 (63.6)
Catheter associated urinary tract infection (CAUTI)	61 (61.6)
Central line associated blood stream infection (CLABSI)	61 (61.6)
Emergency planning	61 (61.6)
Exposure/needle stick response	60 (60.6)
Surgical site infection (SSI)	55 (55.6)
Cultural competency	53 (53.5)
Ventilator-associated pneumonia (VAP)	41 (41.4)
Mpox (previously known as Monkeypox)	38 (38.4)
Wound care	36 (36.4)

Looking Forward and Future Expansion

As we conclude this annual report, **KyIP Training Center** will embark on a trajectory of forward planning and anticipate the future expansion. With a steadfast commitment to excellence, **KyIP Training Center's** vision extends beyond the achievements of today, propelling into a dynamic realm of continuous growth and impact.

Recognizing the evolving landscape of healthcare, **KyIP Training Center** is poised to strategically expand programs, embrace innovative approaches to education, and fortify collaborations with healthcare communities across the state. The coming years will witness an unwavering dedication to advancing infection prevention practices, fostering professional development, and ensuring the safety of patients and healthcare professionals. As we enter a new year, **KyIP Training Center** remains resolute in its mission to be at the forefront of transformative change within the healthcare landscape, contributing to a safer and healthier future for the state of Kentucky and seeks to do so by meeting the goals outlined below.

Enhanced Program Offerings: Expand and diversify the portfolio of educational programs, ensuring they remain aligned with the evolving landscape of infection prevention. This includes the development of targeted initiatives to address emerging challenges and advancements in the field with a focus on educational topics sourced from the Learning Needs Assessment, Topics Survey, and various other means of input.

Increased Outreach and Engagement: Implement comprehensive outreach strategies to broaden engagement with healthcare professionals across the state. This involves leveraging social media platforms, conducting webinars, and establishing partnerships with key stakeholders to maximize the impact of infection prevention initiatives.

Innovative Training Methods: Explore and integrate innovative training methods and technologies to enhance the effectiveness of education programs. This includes the incorporation of cutting-edge simulation techniques, virtual reality, and interactive online modules/Learning Management Systems to create immersive learning experiences.

Community Collaboration: Foster increased collaboration with local healthcare communities, including hospitals, clinics, and long-term care facilities. Establishing collaborative initiatives and sharing best practices will contribute to a collective effort in strengthening infection prevention measures throughout the Commonwealth.

Continuous Data Analysis: Standardize data analysis methodologies to continually evaluate the effectiveness of training programs, ensuring they meet the specific needs of healthcare professionals. Utilize participant feedback, pre and post-assessment data, and other metrics to refine and tailor educational content.

Professional Development Opportunities: Provide expanded professional development opportunities for healthcare professionals, including leadership training, integrated mentorship program, and avenues for career advancement, such as CIC certification assistance, within the realm of infection prevention.

Research and Publications: Encourage and support research initiatives within the field of infection prevention. Disseminate findings through publications, presentations, and collaborations with academic institutions, contributing to the broader knowledge base and advancements in best practices.

Strategic Funding Partnerships: Forge strategic partnerships with funding organizations, governmental bodies, and industry stakeholders to secure resources necessary for sustaining and expanding **KyIP Training Center** initiatives. This involves actively seeking grants and funding opportunities to support ongoing and new projects.

Flexibility in Response: Maintain adaptability and flexibility to respond effectively to public health emergencies or emerging infectious diseases. This includes having a proactive plan in place to rapidly deploy relevant training and resources to address urgent infection prevention.

Conclusion

KyIP Training Center is pleased to present its annual report. Over the past year, the center has continued to deliver high-quality training programs and services to partners and participants. Our commitment to providing tailored and innovative solutions to meet the unique needs of the infection prevention community has remained steadfast.

KyIP Training Center has successfully adapted the training delivery methods to accommodate a variety of learning modalities and ensure the continuing engagement of Kentucky's healthcare workers, while also continued to expand our range of courses, with a particular focus on simulation-based and bite-sized education to reach a broad audience.

We are proud to report that **KyIP Training Center** has received positive feedback from our program partners, with many noting the effectiveness of our training programs and the professionalism of our educators and nurses. We have also made significant progress towards our goal of becoming a leading provider of training services in the region.

As we move forward, **KyIP Training Center** remains committed to excellence in all that we do. We will continue to strive towards delivering exceptional training programs and services that help frontline healthcare workers and advanced infection prevention partners achieve their goals and reach their full potential.

Thank you to our partners, and all healthcare workers for your continued support.

APPENDIX A

Listing of Grand Rounds Sessions

- CDC response to infection control and COVID-19
- Statistical process control
- A program to control multidrug-resistant organisms in Healthcare Settings
- A review of the new OSHA targeted enforcement initiative for COVID-19 in healthcare facilities
- Case control studies
- Making sense of the new CMS COVID-19 guidance for skilled nursing facilities
- Pathophysiology of catheter-related bloodstream infection
- Update on multidrug-resistant *Acinetobacter baumannii* in Kentucky
- Reducing device-related infections: A closer look at CAUTI and CLABSI prevention
- Sentinel events
- Medical device safety
- Update COVID-19 vaccines
- AAMI standards: infection control updates
- Simulation in infection control

- On the CUSP: The Tool That Transforms HAI Prevention Efforts

- Using biostatistics in infection control
- Implementation of personal protective Equipment use in nursing homes to prevent spread of multidrug-resistant organisms
- An introduction to propensity scores
- IV to oral antibiotic administration
- Patient safety
- Mpox: environmental infection control
- KY reportable diseases and YOUR responsibility
- Project Firstline
- Resilience
- Simulation and infection control
- The world of viruses: what do we do next?
- A year in Review for HAI Progress
- Kentucky notifiable diseases: An Update
- Primer on germicides
- KDPH healthcare-associated infection update: *Candida auris*
- A primer in machine learning in infection prevention and control
- Environmental infection control: surface disinfection technologies
- Balancing home life and safety in long-term care facilities
- Cleaning and Disinfecting for Infection Control and Prevention Using excel to present your data: process control charts
- Large language models: ChatGPT and me
- Pneumonia
- Kentucky Notifiable Diseases: An Update
- Primer on germicides
- Community-acquired Pneumonia: Short and To the Point! A Focus on Optimal Length of Therapy
- KDPH Healthcare-Associated Infection Update: *Candida auris*

- Disinfection of reusable medical devices
- The ABCs of Beta-Lactamases
- The Ins and Outs of ESBL Infection Management
- Primer in Machine Learning in Infection Prevention and Control
- Environmental infection control: Surface disinfection technologies
- Lab testing for STDs
- Treatment of STDs
- Laboratory Detection of Mycobacterial Infections
- Non-tuberculous mycobacteria (NTM)
- Antimicrobial Stewardship in Primary Care
- Surgical specimens in microbiology. Surgical specimen collection for cultures and interpretation of surgical cultures.
- Antibiotic surgical prophylaxis
- Antimicrobial stewardship: Are we missing something
- How to travel screen
- Six Sigma in Healthcare
- Microbiology of the Great Outdoors
- Source Control
- Treatment of Intestinal Parasites
- Chicken Pox
- Intestinal Parasites
- Respiratory Illness: When should antibiotics be prescribed
- Catheter-Associated Urinary Tract Infection (CAUTI)
- Infectious Diseases Grand Rounds: Antimicrobial Stewardship for the Infection Preventionist
- Infectious Diseases Grand Rounds: Communicating HAI data: What is your hospital's story
- Yeast Infections: a brief overview of colonization vs infection
- Yeast Infections
- Using TAP Reports to Identify Gaps in Infection Prevention
- Generating TAP Reports
- Animal Bites and Exposure
- What we get from our pets
- The Art and Science of Conducting Healthcare Simulation
- Refugee Healthcare in Kentucky
- Infectious Gastroenteritis: A Microbiology Case
- Community-Acquired Pneumonia: Short and to the Point
- Gram-Negative Bacteria in Blood Cultures
- Healthcare Environmental Reservoirs
- Tick-Borne Illnesses
- Antimicrobial Prophylaxis in Surgery
- Antimicrobial Stewardship in Ambulatory Care
- Flu Season: What You Need to Know
- Sniffles, Snorts, Coughs, And Hacks: The Era of Modern Respiratory Infections
- Vancomycin and Piperacillin/Tazobactam: Where Do We Stand?
- Risks of Antimicrobial Use
- Antibiograms: Creating Them / Antibiograms: Using Them
- Antimicrobial Stewardship in the COVID-19 Era
- Introduction to Pharmacokinetics and Pharmacodynamics in Infectious Diseases
- Need for Speed: Blood Culture Rapid Diagnostics and Antimicrobial Stewardship

- "Etiology of Respiratory Tract Infections: Historical Perspective"
- The Convoluted History of Clostridioides difficile Testing
- Urine Cultures
- Taking a Bite out of Clinical Risks of Patient Safety Breaches
- The Mathematics of Laboratory Testing in the Age of COVID
- Vexed by Viruses: Viral Illness and Antimicrobial Stewardship
- The Utility of Maps for Infection Control and Disease Surveillance
- Improving the Reliability of Blood Cultures
- Dissecting the Susceptibility Report
- ICRA 2.0: What is it? How do I use it & How Can it Save Lives?
- The Basics of Laboratory Diagnosis of Infectious Diseases
- Review of Carbapenem-Resistant Organisms (CROs) in Kentucky
- Asymptomatic Bacteriuria Overview
- The Ins and Outs of Clostridioides difficile
- Case-Control Studies and Hospital-Acquired Infections
- Matrix-Assisted Laser Desorption Ionization-MALDI
- Interpreting SIR and SUR

APPENDIX B

List of Available CE on Haymarket

- Infection Prevention Program for Home Health Setting in 7 Steps
- Infection Prevention Program for Long Term Care Settings in 7 Steps
- Infection Prevention Program for Behavioral Health Setting in 7 Steps
- A Primer in Machine Learning for Infection Control
- Network Analysis: Making Quantitative Data Qualitative
- Literature Review Meta-Analysis: Data Source Dependent
- Infectious Disease Epidemiology
- How To Read and Critique Medical Literature
- Types of Research Studies and Measures of Association
- Penicillin Drug Class Review
- Penicillin Allergy Review
- Urinary Tract Antibiotic Review
- Balancing Home Life and Safety in Long-Term Care Settings