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Infectious Disease Experts Call for Measles Outbreak Response Plans

Although the incidence of measles cases remains a relatively rare occurrence in the United States, public health authorities are concerned about the growing incidence of the disease over the past year. From January through the early part of November 2019, the CDC reported that more than 1,260 cases were confirmed in 31 states, the highest number of cases recorded in the United States since 1992. Among these patients, 123 had to be hospitalized, and 61 suffered complications such as pneumonia and encephalitis.¹

Measles poses particular risk for children younger than age 5 years, pregnant women, and people with compromised immune systems. Further, the highly contagious nature of measles presents huge challenges for hospital EDs. Many clinicians have never encountered a measles case and may not immediately suspect measles in their initial evaluation of a patient. Also, once a measles case is identified, emergency staff must scramble to identify any persons who may have come into contact with the patient, and take steps to prevent transmissions to other patients or staff.

For all these reasons, infectious disease experts insist that it is important for all hospitals and EDs to think about these challenges ahead of time and to put a measles response plan in place, particularly as the number of cases is expected to rise by late winter and early spring. Some even say that at this rate, it is not a matter of whether a case will present in your ED, it is only a matter whether you will be ready when it happens.

Move Aggressively

Children’s Minnesota, a pediatric hospital system with campuses in Minneapolis and St. Paul, has a good bit of experience in dealing with measles. Since 1989, there have been three measles outbreaks in the region, explains **Patricia Stinchfield**, RN, MS, CPNP, CIC, the health system’s senior director of infection prevention and control.

“[For] the first one, in 1989-90, there were hundreds of cases in the state. That was during a nationwide measles outbreak,” she recalls. “We had a smaller outbreak in 2011 that involved 22 cases, and then there was an outbreak in

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2017.” In the most recent outbreak, the first case came through a Children’s Minnesota ED and was identified by hospital personnel. “The patient had symptoms that [clinicians] thought were [indicative of] strep throat and amoxicillin rash, so the patient was not in isolation,” Stinchfield reports.

However, concerns that the patient might have measles quickly escalated when a second patient presented to the ED with similar symptoms. “They were both from the same daycare center and both had fever, cough, and rash,” Stinchfield shares. “[Clinicians] called us in infection control and said we think we might have measles here, so we are going to do a test.”

When the test returned positive for measles in both patients, clinicians strongly suspected there would be more patients to follow. Hospital leaders quickly activated the health system’s incident command system. It was an aggressive move, but one that turned out to be well-founded. The outbreak endured for five months, involving 75 measles cases and 22 inpatient hospitalizations, all of which were at Children’s Minnesota.

“If you have one case of measles, it should be considered an emergency. It takes sort of an all-hands-on-deck approach to determine where was the patient and were there others exposed,” Stinchfield observes.

For instance, this means determining where the patient attended daycare or school, and leveraging community relationships to ensure any additional cases are identified quickly to stop further spread of this highly contagious disease. “When you have a complex problem that is urgent, you have to have some order to it. The best thing to do is just up your hospital incident

command early on,” Stinchfield offers. “If there is one case, there are likely more.”

Bolster Defenses

During the 2017 measles outbreak, no patient died, and no patient was in the ICU. The vast majority of cases, if not all of them, came through a Children’s Minnesota ED, Stinchfield says. To handle this emergency, infection control worked with ED staff to bolster their defenses and minimize the potential for a measles patient to transmit the disease to others in the department.

“We consider the ED as the front door to the community. Whatever is going on in the community, whether it is measles or pertussis or influenza ... the ED tends to see it first. You have to make sure [ED personnel] are aware and prepared,” Stinchfield stresses.

Infection control collaborated with ED leadership to develop what they call a “pivot nurse” role, which involved quickly assessing patients and families even before triage. The pivot nurse was stationed outside the ED so that patients or families that present any risk of exposure could be identified before they entered the department.

“As the outbreak was going on, we were adding interventions in the ED and measuring which strategies helped us to reduce the potential spread of infection,” Stinchfield recalls.

For example, the pivot nurse and triage staff started a practice that Stinchfield refers to as universal masking. This involved equipping every patient and family member who presented to the ED with a mask, regardless of why they were there. Then, ED staff would work to determine what the patient’s

immunity status was regarding measles.

Stinchfield acknowledges that it can be difficult to determine every patient's immunity status during a measles outbreak. Thus, the hospital moved functionality into the ED's electronic medical record (EMR) to make this information more easily attainable. "The ED nurse can actually open up our state immunization registry right in the EMR and look at what [a patient's] immunity is," she explains.

Finesse Triage Questions

As the outbreak was unfolding and disease investigators were learning more about where most of the patients with measles were contracting the illness, infection control worked with the ED to finesse the questions triage nurses were posing to patients and/or their parents.

For instance, during this outbreak, it became clear that most of the measles cases involved young children from a particular Somali community where there was some hesitancy about the MMR vaccine.

However, rather than asking directly about ethnicity, which might not be well-received, the triage nurses were instead encouraged to ask about whether the children presenting attended any schools or childcare centers that had received notifications about measles.

"It was a more sensitive way to get the information required," Stinchfield explains. "You need to make sure you are tweaking your questions related to the outbreak. It also is important to be able to do this in a nimble way."

Today, Children's Minnesota has a protocol in place for how to deal with measles that includes the many layers needed to respond effectively

EXECUTIVE SUMMARY

Considering measles cases in the United States have been surging to numbers not seen since 1992, infectious disease experts are urging hospitals and EDs to devise response plans that they can trigger quickly should a patient with measles present. The biggest issue is the fact that the highly contagious nature of measles can prove especially challenging in the ED, putting other patients and unprotected staff at risk.

- Since 1989, Children's Minnesota, with campuses in Minneapolis and St. Paul, has handled three measles outbreaks. Thus, leaders developed a plan to respond if even a single measles case presents to one of the health system's EDs. During the 2017 outbreak, Children's Minnesota activated its incident command system after two patients from the same daycare center presented to the ED with measles.
- Among the interventions that can be deployed in the case of a measles outbreak is the use of "pivot nurses" to quickly assess patients and families before they enter the ED, and universal masking of all patients — at least until their immunity status can be verified.
- One step that all health systems can take before any measles cases present is to verify the immune status of all employees, and take steps to vaccinate any individuals who are not adequately protected. Over the past year, that is what BJC HealthCare did in St. Louis, even though there have been no measles outbreaks reported in the region yet.

while protecting staff and patients. Stinchfield encourages all hospitals to establish similar plans so that they are ready for when a measles case presents.

"If we are going to roll out messages to the community, [the hospital public information officers] have those on file. If we are going to implement special ED triage procedures [during a measles outbreak], we have those on file," Stinchfield relates. "We have learned a lot over the years."

In fact, there are multiple ways hospitals can act in advance so that if a measles case presents in the ED, they will be prepared. For example, Stinchfield advises EDs to work with their IT department to devise a way to easily identify all the patients who are in the ED at a particular time, and pull that data into a report.

This kind of information is critical if staff need to contact all the people

potentially exposed to a patient who presented to the ED with measles.

Also, as Children's Minnesota has done, implement a way to easily identify the immunization status of patients, Stinchfield suggests. During an outbreak, this information can help investigators stratify patients into different risk groups.

Another tactic is providing education on how a measles case typically presents. "Getting pictures of individuals with measles in front of emergency staff brings the disease more to the front of their minds. They will know what a measles rash looks like," Stinchfield advises.

Ensure staff know that the rash typically starts at the scalp and progresses across the face and down the trunk, she explains. Also, patients typically cough and register a fever; some may exhibit red, watery eyes. Staff members must realize this constellation of symptoms should

move a patient to the front of the line so that he or she can be placed in isolation, Stinchfield stresses.

“If staff don’t really know [what to look for], then you are going to create more work in terms of additional exposures and follow-up,” she warns.

Verify Immune Status

The last thing one wants to worry about during a measles outbreak is whether facility employees are susceptible.

But this is yet another issue leaders can address before a measles case presents. **Hilary Babcock**, MD, medical director of occupational health at Barnes-Jewish and St. Louis Children’s Hospitals in St. Louis, decided to take this issue on in the spring of 2019.

“I heard from some colleagues that were dealing with these outbreaks in their communities and at their facilities. That really highlighted for me how much work that was, and how difficult it was to respond,” explains Babcock, professor of medicine in the infectious diseases division at Washington University School of Medicine. “Whatever you can do in advance to be ready is definitely an advantage. That is what really prompted us to go ahead and do a deeper exploration of our current [immunity] status, and work on getting everybody up to the standard that they need to be.”

By “everybody,” Babcock is referring to all 30,000 of BJC Health-Care’s employees. “We have a mandatory influenza vaccination program that has been in place since 2008 ... and the MMR vaccine was also [at the time] required upon being hired,” she explains. “But because the requirements for the MMR vaccination of healthcare workers has changed a little bit over time, we had some employees who had been in alignment with the guidance when they were hired, but weren’t anymore. We had not gone back and found those people, so we set out to do that.”

For example, the criteria used to state that being born before 1957 was evidence of immunity. In recent years, the CDC has toughened the criteria for healthcare workers to include physician documentation that an individual born before 1957 had a case of measles. “If, in fact, someone has a letter from their physician that states they saw this person and [he or she] had measles in 1952, then no, that person doesn’t have to get vaccinated, but most people don’t have that,” Babcock shares. “People might say that they think they had measles ... but that is not acceptable evidence of immunity anymore.”

Arrange Testing

Fortunately, the health system had acceptable documentation of immunity from measles for most

employees. However, the remainder had to undergo testing to check their immune status. These employees were contacted through a standardized email notification, explaining that the health system wanted to be prepared in the event of a measles outbreak. The employees received instructions on where they should go for testing, and they were given 30 days to complete the task.

“We started drawing titers on them, and 80% to 85% of these employees were immune. Either they had been vaccinated for measles but didn’t have the records, or they had had the measles when they were young, but didn’t have documentation of that fact,” Babcock observes. “With a blood draw, we were able to confirm they were immune, and that they didn’t need to do anything further.”

Employees found not to be immune were notified of the results and instructed to come in for a MMR vaccine within a specified period. “Some of the facilities that didn’t have a lot of employees sent their emails out all at once, and got all the immunizations completed within six weeks,” Babcock shares. Alternatively, some hospitals staggered their email notifications, handling specific groups at a time, so it took them a bit longer to complete the process, she says.

The health system already had a process in place for employees who have a medical contraindication or a

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religious objection to receiving mandated vaccines, Babcock notes.

“We provide for them an accommodation plan,” she explains.

Such employees need to wear masks when taking care of patients. Further, if they are exposed to measles or the flu, they need to report this exposure and will be off from work for a specified period.

“We make clear what the process is for employees if they are unable to be vaccinated,” Babcock adds. While making sure that employees are

protected or immune from measles is just one aspect of the measles response plan that the health system has put in place, it is an important part, Babcock stresses.

“If you have a lot of staff, and you don’t know their immune status, and then you have a measles patient come through, you will end up having staff members who can’t come to work who have been exposed. That can really create big problems for care delivery,” she explains. “While it is hard to do this work, in some ways it is the

easier piece than trying to be assured that every triage person throughout your system remembers to think of measles every minute.” ■

REFERENCES

1. Centers for Disease Control and Prevention. Measles cases and outbreaks. Available at: <http://bit.ly/2XjPv13>.
2. Centers for Disease Control and Prevention. Measles. For healthcare professionals. Evidence of immunity. Available at: <http://bit.ly/2Xqi6P8>.

Investigators Narrow Culprit List in Vaping Injury Cases

By mid-November, the CDC reported there were 2,172 confirmed and probable cases of e-cigarette or vaping product use-associated lung injuries (EVALI) in 49 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Further, the agency noted that 42 deaths have been linked with vaping use.

While the outbreak remains serious, and EVALI cases continue presenting to frontline providers, health investigators have made some progress in pinning down at least one potential cause for the frightening condition. In a media briefing on Nov. 8, **Anne Schuchat**, MD, principal deputy director of the CDC, explained that testing of fluid samples collected from the lungs of 29 patients with EVALI revealed that vitamin E acetate was present in all samples.

“These new findings are significant because for the first time we have detected a potential toxin of concern, vitamin E acetate, in biologic samples from patients with lung injuries associated with the use of e-cigarettes

or vaping products,” Schuchat said. “These findings provide direct evidence of vitamin E acetate at the primary site of injury within the lungs, and the samples reflect patients from states across the country.”

The findings also revealed that tetrahydrocannabinol (THC) was present in 23 samples, and nicotine was found in 16 samples. However, it was the presence of vitamin E acetate in all samples tested that Schuchat characterized as a breakthrough in the investigation into the outbreak of EVALI cases.

“It’s important to note that these findings do not rule out other possible compounds or ingredients that may be causing these lung injuries. There may be more than one cause of the outbreak,” Schuchat stressed.

However, she noted that the new findings tell investigators what entered the lungs of some EVALI patients. Further, Schuchat said that the results of this testing reinforce CDC recommendations not to use vaping products that contain THC and, in particular, to avoid vaping

products from informal sources or the illicit market.

“Until the relationship between vitamin E acetate and lung health is better characterized, it is important that vitamin E acetate not be added to e-cigarettes or vaping products,” Schuchat warned. “Though vitamin E acetate was universally detected in these 29 case-associated [lung fluid] samples, additional studies are needed to establish whether a causal link exists between the exposure and EVALI. Many different substances and products are still under investigation, including those tested in these samples.”

Jennifer Layden, MD, chief medical officer and state epidemiologist with the Illinois Department of Public Health, also spoke at the media briefing about the results of an online public survey deployed by her department to gather information about what vaping products typically are used in that state, and how they are used. “The goal was to compare a subset of survey respondents who used e-cigarette or vaping products to

our interviewed EVALI patients to identify risk factors associated with an increased chance of being an EVALI case,” Layden explained.

Among 4,631 adult survey respondents, 94% reported using nicotine-containing products, and 21% reported using THC-containing products, according to Layden. She also noted that use of the THC-containing products was

more common among younger respondents, and that men reported more frequent use of both nicotine- and THC-containing vaping products than women.

When comparing the survey respondents who used THC-containing vaping products and did not have EVALI with adult EVALI patients in the same age group, investigators found EVALI

patients were twice as likely as survey respondents to use THC-containing vaping products exclusively. Also, EVALI patients used these products more frequently than the surveyed group. Further, Layden noted EVALI patients were roughly nine times more likely to obtain their THC-containing products from informal sources, such as a friend or off the street, than survey respondents. ■

This Flu Season, Consider These Tactics to Manage Capacity, Prioritize Safer Care

Prognosticators often look to Australia for an idea of what kind of flu season we can expect in the United States. Australia just finished its flu season, which started early and was unusually severe. Whether that accurately portends a similarly severe season in the United States remains to be seen.

Still, hospitals and EDs should be prepared to manage the kind of capacity problems that result when hospitals accustomed to running at

or near full capacity are slammed with a steady flow of influenza patients, many of whom require hospitalization.

In fact, there are several tactics that can help hospitals and EDs manage the kind of capacity challenges that occur during flu seasons and other periods of peak volume. However, such interventions require some leadership and planning to carry them out successfully. Many of these tactics were highlighted in

a presentation conducted by the Institute for Healthcare Optimization (IHO), a nonprofit focused on applying science and operations practice to healthcare delivery, on Oct. 23. Aptly titled “Optimizing Patient Flow in Preparation for the Flu Season,” presenters broke down specifically where and why the most common types of bottlenecks occur, and how hospitals and EDs can select and implement the best solutions for their needs.

Consider Artificial Peaks

Eugene Litvak, PhD, president and CEO of IHO, noted that a common misconception about the variability that occurs regarding hospital patient volume is that most of it is due to admissions from the ED. However, he stressed that is not the case.

Instead, Litvak noted that in many hospitals, investigators find that it is elective or scheduled admissions that are at the root of most variability in a hospital’s census, a phenomenon Litvak calls artificial variability.

“It is not random or nonpredictable. It is manmade,” he said. These elective admissions do not just involve patients who are scheduled for

EXECUTIVE SUMMARY

To resolve capacity problems related to flu epidemics and other issues, experts point to a range of tactics that can be leveraged effectively to keep patient flow moving while facilitating safer care for patients. These include steps to hasten the early discharge of patients so inpatient beds become available faster, and steps to smooth elective, scheduled admissions across the week rather than frontloading these admissions on Monday and Tuesday.

- Experts note hospitals should reassess the criteria they rely on to determine when patients are suitable for admission to specific hospital units. Often, these criteria are outdated or not based on patient-centric factors.
- They also recommend using queuing and simulation analysis to determine what size each hospital unit should be to meet patient needs.
- Usually, ED boarding problems are caused by backend throughput issues; ED-specific projects are unlikely to make a significant dent in such issues.
- Consider implementing a full capacity protocol through which patients awaiting admission in the ED can be placed in a hallway on the appropriate inpatient floor while they await an inpatient bed.

surgery. They can involve telemetry beds or medical admissions, too. Still, these elective, scheduled admissions tend to create what Litvak called artificial peaks.

Further, he noted that when this type of variability is not well-managed, and then a flu epidemic breaks out, there can be many consequences, such as overcrowding, medical errors, infections, and even a higher risk of mortality.

Reassess Criteria

What else causes bottlenecks? **Sandeep Green Vaswani**, MBA, senior vice president at IHO, noted that the criteria hospitals use for determining when to move patients from one care level to another often are fuzzy, making it difficult for clinicians to make objective decisions.

“There is just too much room for error around the specific criteria, and that is something that needs to be addressed,” he said. “[Also,] the criteria often tend to take into account legacy processes or specific physician preferences or agreements that may have been in place for a variety of reasons.”

Instead, patient-centric, clinical, and technical criteria should be used to determine how patients should be moved through a hospital system, Vaswani suggested. For instance, he observed that hospitals often

maintain long lists of criteria for admission to different units and various levels of care. However, many of these criteria are so outdated that clinical staff largely disregard them.

“Nobody really uses them to methodically determine where a patient should be admitted and when they should move through different levels of care,” Vaswani explained. This adds another layer of variability to patient throughput.

Right-Size Units

Even after hospitals and EDs have updated their criteria and taken other steps to address bottlenecks, it is not uncommon for clinicians to still run into obstacles when trying to put patients in a particular unit they deem best for the patient’s needs.

“There may still be some misplacement even after you have streamlined your admissions, discharge, and transfer criteria,” Vaswani observed. “If that is the case ... figure out exactly how many beds are needed for each level of care for each type of service.”

To make such determinations, Vaswani recommended hospitals conduct queuing analyses and simulation techniques to determine what changes are needed to meet patient needs.

“What we find time and again is that once variability is removed, these tools — queuing and simulation

— can help hospitals determine the right-sizing of these patient units,” he said. “What this kind of analysis allows you to do is be much more methodical about managing ED boarding rather than being surprised every day when you see there are not enough beds and there are too many patients waiting in the ED.”

However, Vaswani stressed this is not the kind of work that one can borrow from another hospital.

“You need to figure out exactly what your problems are and where your bottlenecks are. Then, accordingly, determine what the appropriate intervention would be,” he said. “For instance, you could find that you have more admissions when certain physicians are in the ED or rounding on your unit. That may be an indication there is some artificial or manmade variability or patterns at your hospital on certain units.”

For cases in which hospital leaders suspect there may be unnecessary or inappropriate admissions, that is another case for studying variability closer, Vaswani noted. For example, one may find there are long delays in the ED for admission to certain units while there are no delays for admission to other, similar units.

Alternatively, one could find discharge or transfer delays that are due to nonclinical reasons. There could be process delays or holdups in receiving appropriate orders, Vaswani shared. “If you find you are

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transferring patients too often from one unit to another to accommodate new admissions, that is another indication that you may not be right-sized, and there may be artificial reasons affecting patient flow,” Vaswani added. “Similarly, length of stay [LOS], depending on the team or provider of record, is an indication of artificial variability.”

Another red flag is when there is a different LOS for patients who are similar.

“That may be an indication that something is going on,” Vaswani said. “For instance, access to services over the weekend may not be adequate, which may prolong LOS.”

When patients are treated in the right place at the right time, there often is an ability to decrease the number of beds required while also accelerating throughput, Vaswani said.

“That also then helps to smooth out the workload for nursing, which obviously has a significant staff satisfaction aspect to it,” he observed. “Patients are certainly happier to be treated in the right place, and you see satisfaction scores go up as a result of improved flow.”

Look Beyond ED

When the waiting room in the ED is packed, and there are long waits for care, people tend to become frustrated, including administrators and staff.

“Everybody is sort of at each other’s throats about where the problem is,” observed **Peter Viccellio**, MD, FACEP, clinical director of emergency medicine at Stony Brook University. “There has been a longstanding culture in the hospital industry that since this problem sits in the ED, the

ED should do something about it.” Perhaps there are too many unnecessary visits. Or, if there is a boarding problem, then the ED is admitting too many people unnecessarily. Further, if it takes too long to secure a CT scan, then the solution is to not order so many of them, Viccellio noted.

“It is true that if we closed our doors, we probably wouldn’t have this [capacity] problem,” he observed.

“IF YOU WANT TO FIX THE PROBLEM YOU HAVE, YOU HAVE TO ATTACK THAT PROBLEM, NOT ANOTHER ONE.”

Viccellio explained that EDs tend to focus on things they can control. For instance, leaders might place physicians or other providers in triage so that blood work and other tests can begin earlier.

In fact, that was a step Viccellio’s own department took, which reduced LOS by an average of 16 minutes. Still, that only represented about 1.1% of the ED’s problem in terms of boarding and crowding.

“There is no right way to do the wrong thing,” Viccellio said. “If you want to fix the problem that you have, you have to attack that problem, not another one.” Further, the consequences of failing to fix a capacity problem in the ED puts patients at risk, increases LOS, hikes malpractice claims, and drives up nursing turnover, Viccellio added.

How can hospitals effectively address ED overcrowding or

boarding? Viccellio said there are several known solutions, but it is important to pick the right solution and to implement that solution to a sufficient degree. For instance, he noted most hospitals are familiar with the concept of facilitating earlier discharges so that patients awaiting admission in the ED can move upstairs faster. However, if hospitals are increasing the number of their early discharges from 5% to 6%, the intervention probably has not been implemented to a sufficient degree to solve the problem.

Hospitals have to commit to a process in which stakeholders identify obstacles that must be addressed, and then move forward. It sounds simple enough, but some may be so caught up in the process they lose sight of the desired results, Viccellio explained. “They’re still looking at data, and still doing little projects, but have not really moved the numbers,” he said.

To prevent the process itself from becoming the goal, leaders must establish desired results at the outset, Viccellio explained. In this results-oriented approach, process leaders can say they want discharges by noon to increase by 30% in four months. This is in contrast to trying a solution, and then reporting back in a year.

“This does require leadership in order for [changes] to happen,” Viccellio stressed. “Once the change happens, though, then it is safer for the patient, it is easier for the physician and for the staff, and the financial benefits to the hospital can be huge.”

Viccellio noted research suggests that boarding in the ED is associated with one extra day in the hospital as an inpatient. A concerted focus on early discharges can enable one to affect LOS positively while

also reducing boarding hours dramatically.

Consider Smoothing

Another potential intervention involves taking steps to smooth elective admissions across all the days of the week rather than frontloading these admissions early in the week. For example, perhaps boarding problems at one facility are occurring most commonly on Monday and Tuesday, the same days when elective admissions were most prominent.

“At this same institution, with 600 beds and an average of 30 boarders, had these [elective admissions] been smoothed across five days of the week, there would be no boarding. Instead of needing 600 beds, it would need just 570 beds,” he explained. “If someone wanted to make the leap and [smooth elective admissions across] seven days of the week to address the [boarding] problem, the 600-bed hospital would only need 500 beds. That is assuming no change in LOS.”

Plan for Full Capacity

Considering most hospitals must run at or near full capacity from a financial standpoint, it is important to put a plan in place for when the hospital is full, but patients are still coming to the ED, Viccellio noted. This is certainly the reality for many hospitals during periods of peak flu volume.

In these cases, Viccellio suggested rather than boarding patients in the ED while they await an inpatient bed, place them on the appropriate inpatient floors. In each case, there may be no bed available, but the right expertise is there to care for the patient, even if that patient is

placed in a hallway temporarily. “If you believe in safety, you have to compare the patient’s experience [boarding in the ED] vs. if they are upstairs in a hallway,” Viccellio offered.

He added there should be a curtain around the patient, a call bell the patient can use to signal the nurse’s attention, and a bathroom the patient can use, but the patient winds up where he or she needs to be.

**“THE FRONT
END IS NOT THE
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END IS.”**

“We found that about 25% of [such patients] get into a room right away, another 25% get into a room within an hour, and about 50% wait eight to 10 hours before they get into a room,” Viccellio reports.

Rather than boarding dozens of patients in the ED, one is asking other units to take over the care of one to three patients to redistribute the load.

“If you are adding a couple of patients per unit, you are not having to add staff ... but the staff have to understand why they are [taking added patients] on,” Viccellio observed. “They are not doing it to make the emergency nurse’s job easier. They are doing it to make the patient’s care better.”

To implement this type of policy in his own hospital, administrators held meetings about the plan adjacent to the ED so that staff from upper floors could see what patients

experience when they are boarded in the ED. It was clear that one emergency nurse cannot optimally tend to 10 or 12 patients requiring inpatient hospitalization.

“This group of nurses at my institution was actually able to frame things as what is best from the patient’s point of view,” Viccellio reported.

If there are patients ready for discharge on upper floors, consider moving them into hallways so newly admitted patients can move into a room, Viccellio suggested.

“If you do that, it may also help to facilitate early discharge,” he offered.

Investigators have found that this full capacity protocol is safer for patients, producing a lower mortality rate and a shorter LOS; the patients prefer this protocol, too, Viccellio noted.

“We surveyed patients who were in the hallways in the ED vs. in the hallways upstairs. Close to 90% preferred being upstairs,” he said.

Analyze Queues

Again, hospitals and EDs must focus on solutions that work rather than pet projects or Lean events that may just nibble around the edges, leaving EDs with the same problem they are trying to solve.

“The front end is not the problem. The throughput on the back end is. This should draw your attention to what your fixes are,” Viccellio stressed.

While hospitals and EDs grapple with their capacity problems, Viccellio recommended administrators consider every queue that exists. “You have to get patients out as quickly as you can, so what are they waiting for?” he asked. “Are they

waiting for physical therapy, an echocardiogram, or a CT scan? Do all of these services go home at [3 p.m.] so that those patients have to wait until the next morning?”

Answering these questions should help hospitals pinpoint their throughput problems. Then, administrators can find ways to

redistribute existing staff so that services ordered today are fulfilled the same day. “This may help with throughput short term in a dramatic way,” Viccellio predicted.

Although gathering good data is important to any change process, Viccellio cautioned that continuous requests for new data should never

be used as an excuse for inaction. “You can keep asking for data to enforce inaction for months to years,” he said. “These things have to be done in a framework of clear leadership and a time frame. You need your crucial data, but it is possible to keep asking for more and more data just to put off action.” ■

What Does Cannabis Legalization Mean for Emergency Nurses?

The legalization of cannabis could be creating additional burdens on emergency nurses, according to the results of a recent investigation.¹

An initial, qualitative study on the issue was prompted by requests from nurses to assess the effect of legalization on EDs, explains **Lisa Wolf**, PhD, RN, CEN, FAEN, director of the Institute for Emergency Nursing Research, a division of the Emergency Nursing Association. “This is a very preliminary look at what [legalization of cannabis] actually means to emergency nurses,” Wolf observes.

In focus groups, investigators collected information from 24 emergency nurses who provide care to patients either in states that have legalized cannabis or in states adjacent to those that have approved legalization.

“What participants talked about the most ... in terms of time, energy, emotional investment, and

patient management was cannabis hyperemesis, the cyclic vomiting that comes from ingesting high levels of THC,” Wolf says. “What they described was otherwise young, reasonably healthy people who come in with intractable vomiting. The concern is that this is a repetitive presentation.”

For example, Wolf notes that when a nurse explains to patients that the cause of their vomiting is too much THC, it is not uncommon for them to reject that explanation. In fact, Wolf notes she has experienced this type of reaction herself.

“There is a disconnect between cause and effect. People are very resistant [to the message], so they keep coming back with this vomiting because [they insist] that cannabis can’t be the cause,” she shares.

Typically, such patients will insist on additional lab tests or imaging scans to determine what is really wrong with them, Wolf notes.

“Managing that behavior and that disconnect was reported by study participants as the biggest change from having a larger number of people with access to cannabis,” she adds.

Study participants also reported an uptick in older patients who were presenting with stroke-like symptoms that actually turned out to be related to cannabis use, most commonly edible forms of the product.

“Our participants ... would activate all of these very high-risk protocols, not knowing that the problem is the result of an overdose of marijuana or cannabis,” Wolf reports. “People who are consuming edibles are giving [these products] to other people, and you see some things that look very serious coming into your ED.”

At the other end of the age spectrum, participants reported seeing increases in toxic ingestions of cannabis in the pediatric population. “Candies, gummies, chocolates, and brownies — kids just eat them, so a lot of [nurses] were reporting they saw some pretty serious effects in pediatric patients who had gotten into edible cannabis products,” Wolf says. “These are new [types of] presentations [such that] people needed to start asking about toxic ingestions right off the

CME/CE OBJECTIVES

After completing this activity, participants will be able to:

1. Apply new information about various approaches to ED management;
2. Discuss how developments in the regulatory arena apply to the ED setting;
3. Implement managerial procedures suggested by your peers in the publication.

bat.” Another problem participants recounted to investigators was that many patients who presented with concerning symptoms would not disclose their cannabis use. Often, this would lead to comprehensive workups that would have been unnecessary had the clinicians been able to properly link the patients’ symptoms to their cannabis use.

“One participant told us about an older woman who was brought in with what [clinicians] thought was a stroke. Then, the woman’s daughter came running in, asking her if she told the clinicians that she had been given edibles,” Wolf relates. “People are of varying transparency on this issue.”

Investigators noted one of their most unexpected discoveries was that some EDs, particularly in early-adopter states, were filling up with cannabis tourists. “[Study

participants] reported that they would get young, college-aged people ... who would show up and just kind of hang around,” Wolf shares. “The participants noted that their homeless regulars were being displaced because these younger folks were crowding them out of shelters and away from social services.”

Another problem investigators discovered was that neither healthcare providers nor patients tend to understand what types of cannabis products are available in their regions, or what the dosing or amount of THC is in many of the available products.

“This is where the public health piece of this comes in,” Wolf says. “Communities or states in which [cannabis] is now legal need to understand what the strength of it is ... and whether or how it interacts with other medicines a patient may

be taking. It has got to be treated as a pharmacologically active substance.”

This study is just the first step in a longer-term investigation. Next, researchers intend to examine the issue from a more quantitative standpoint. Wolf reports that they intend to use the information they have developed so far to create a survey that can then be deployed in all 50 states to collect additional information about the effect of cannabis use on EDs and emergency nurses in particular. ■

REFERENCE

1. Wolf LA, Perhats C, Clark PR, et al. The perceived impact of legalized cannabis on nursing workload in adult and pediatric emergency department visits: A qualitative exploratory study. *Public Health Nurs* 2019; Aug 26. doi: 10.1111/phn.12653. [Epub ahead of print].

ENA Acquires ESI Triage, Plans Enhancements

Are improvements in store for the Emergency Severity Index (ESI) triage system? That may be the case, as the intellectual property behind the system has just been acquired by the Emergency Nurses Association (ENA).

“We have started to look at how best to enhance it,” explains **Patricia Kunz Howard**, PhD, RN, CPEN, TCRN, NE-BC, FAEN, FAAN, president of ENA. “We expect to explore all options, including technology and potential collaborations, to help ESI evolve and further improve the ability of emergency nurses to triage patients.”

First launched in 1998, ESI has since become the leading triage approach used in the United States. Generally, emergency nurses use the five-level scoring system, ranging

from most urgent (1) to least urgent (5), to assess for patient acuity as well as the expected level of care that a patient will require upon presentation to the ED.

“ENA is best suited to take advantage of the opportunity to acquire this important tool that is used by 80% of emergency nurses,” Howard observes. “While no immediate changes are planned, ENA will certainly be looking to update ESI and further develop it as

part of our collection of high-quality educational resources that involve the continuum of trauma care.”

Originally, two emergency physicians devised the ESI concept, the late Richard Wuerz, MD, and the late David Eitel, MD.

After pilot testing, the Agency for Healthcare Research and Quality (AHRQ) funded the initial work on ESI. In recent years, AHRQ has maintained and supported the system. ■

COMING IN FUTURE MONTHS

- A new effort to combat violence in the ED
- Fresh approaches to providing behavioral health treatment at the point of care
- Using telehealth to deliver specialized geriatric care to older patients who present to the ED
- Tactics to prevent the overprescribing of opioids



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CME/CE QUESTIONS

1. **During a measles outbreak in 2017, infection control staff worked with ED leaders to develop a "pivot nurse" role, responsible for:**
 - a. coordinating care for patients suspected of having measles.
 - b. verifying the immune status of patients in the ED.
 - c. quickly assessing patients and family members before they enter the ED.
 - d. arranging for the testing of patients suspected of having measles.
2. **In a recent media briefing, CDC officials explained that testing of fluid samples collected from the lungs of 29 patients with e-cigarette or vaping product use-associated lung injuries revealed what substance was present in all the samples?**
 - a. THC
 - b. Nicotine
 - c. Vitamin E acetate
 - d. Artificial flavorings
3. **What is at the root of most of the variability in a hospital's census, causing a phenomenon called artificial variability?**
 - a. ED admissions
 - b. Elective or scheduled admissions
 - c. Process delays
 - d. Unnecessary operations
4. **In a study of cannabis-related ED visits and nursing workloads, investigators reported that what participants talked about most in terms of time, energy, emotional investment, and patient management was:**
 - a. cannabis hyperemesis.
 - b. headache.
 - c. abdominal pain.
 - d. chest pain.