New Recommendations to Improve Management of Uncomplicated UTI

Christine Kilgore

Supported by AMDA — The Society for Post-Acute and Long-Term Care Medicine, an effort to improve the diagnosis and treatment of uncomplicated bladder infections in noncatheterized long-term care facility residents is progressing. The results of the 12-month intervention trial are nearing publication, and a tool kit is available on the Society's website (https://paltc.org/content/iou-toolkit) to cover both diagnosis and empirical therapy for uncomplicated urinary tract infection (UTI).

The consensus recommendations for empirical therapy of uncomplicated cystitis — part of the Improving Outcomes of UTI Management in Long-Term Care (IOU) project/study — were published in *JAGS* in March (J Am Geriatric Soc 2019;67:539–545), just as urinary tract infections were again a topic of discussion at the Society's annual conference.

"There are a lot of guidelines out there for diagnosis of UTI overall," David Nace, MD, MPH, CMD, director of long-term care and flu programs at the University of Pittsburgh School of Medicine and a leader of the IOU project, said in an interview. "But there haven't been any guidelines specific to simple bladder infections in nursing home patients."

The expert panel of clinical pharmacists agreed that the preferred drugs for empirical treatment of uncomplicated cystitis are nitrofurantoin and trimethoprim/sulfamethoxazole (TMP/SMZ). Both drugs are effective against most cases of *Escherichia coli* and *Klebsiella* spp, which together account for over 80% of urinary tract infections in nursing homes. TMP/SMZ is more active against *Proteus*, and nitrofurantoin is preferred when treating *Enterococcus* infections, the guidelines note.

Nitrofurantoin (with a maximum recommended dosing of 100 mg twice a day) used to be discouraged in older adults, but it is no longer on the American Geriatric Society's Beers Criteria and can be used safely in those with a creatinine clearance of 30 mL/min or higher.

"You wouldn't use it for complicated infections, but for simple infections it's a go-to drug," said Dr. Nace, who also is chief of medical affairs at UPMC Senior Communities. "As of recently, [we know] it can be used with relatively little development of resistance. And it's much safer in terms of adverse drug events than ciprofloxacin."

For those with a creatinine clearance lower than 15 mL/min — less than 15% to 17% of the typical nursing home population, Dr. Nace said — ciprofloxacin (250 mg twice a day) or fosfomycin (3 g once) are the recommended drugs of choice.

The IOU project's guidelines for empirical therapy were developed — as was the project's diagnostic algorithm — through a literature review and a Delphi process for consensus building. Although the 19-member panel of clinical pharmacists reached a consensus on treatment choice, dosing, and drug–drug interactions to avoid, it failed to reach consensus on one area: the optimal duration of treatment, especially for men.

"The panel felt really strongly that you don't need 10 days [of treatment] in men, but they didn't feel comfortable with three to five days," said Dr. Nace. "So we [operationalized] the definition to fall in the middle, at seven days for men."

For women, the recommended duration of anti-infective treatment is three days. And in either men or women, consideration of a five-day course of nitrofurantoin is "reasonable," the recommendations note, given that there are fewer data available than with the other drugs. "It looks, at this point, like [effectiveness] may be more dose related — a matter of getting an adequate dose — than related to duration," Dr. Nace told *Caring*.

The guidelines are meant for empirical treatment pending culture results. Clinicians should reassess a patient's progress along with antibiotic appropriateness once the culture results and sensitivities are known. And in choosing an initial empirical antibiotic therapy, clinicians should be attentive to resistance patterns in the facility as well as to disease severity, recent antibiotic use, and/or prior history of antimicrobial resistance in an individual patient, the guidelines say.

In a session on UTIs at the Society's conference, Muhammad Salman Ashraf, MBBS, of the University of Nebraska Medical Center, shared similar advice. He urged clinicians to consider the results of cultures performed in the past six months to two years — and to look at a facility-specific antibiogram when culture results aren't available — when choosing an empirical treatment.

In general, he told *Caring* later, the IOU project's recommended durations for antibiotic treatment of uncomplicated cystitis will be adequate. However, reevaluation at 48 to 72 hours (an "antibiotic time-out") is still important. "If on the third day of a recommended course of antibiotic the resident is not getting better and still has symptoms, we will have to reconsider the diagnosis or the antibiotic choice," Dr. Ashraf said.

The IOU project's diagnostic guidelines were published in *JAMDA* last year (J Am Med Dir Assoc 2018;19:765–769) and focus on whether residents have simple cystitis or not. "This is where most of the mistakes are being made — in distinguishing asymptomatic

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bacteria from a potential uncomplicated infection," Dr. Nace said.

The IOU project has been supported by a grant from the Agency for Healthcare Research and Quality (AHRQ) and has been a collaborative effort between the University of Pittsburgh, the University of Wisconsin, and the Society. Its tools — the diagnostic and treatment guidelines as well as an order set for suspected UTI, case vignettes, and other elements — have been tested in a 12-month soon-to-be-published controlled intervention study.

Christine Kilgore is a freelance writer in Falls Church, VA.

Transportation

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A: The two top companies by far providing NEMT are Uber and Lyft.

Uber is the leading ride-sharing company in the United States, with an estimated 67% of the market in February 2019, according to Second Measure, a business analysis firm. Lyft, which has an Avis-like tendency to play up its underdog status, holds 30% and is strongest on the West Coast ("Rideshare," Second Measure, Apr. 22, 2019; https://bit.ly/2IMsKLB).

Both companies allow passengers to order rides via their smartphones. GPS-navigation software tells the drivers where the passengers are and where they want to go. The fares are paid automatically via credit card and are generally much cheaper than taxi fares. The passengers also can rate their drivers (and vice versa), a system designed to weed out drivers who are unsafe or unprofessional.

Uber created a service called Uber Health in 2018 that allows health care organizations to directly order rides for patients through special software. Lyft has launched a similar program called Lyft Concierge through a partnership with AllScripts, a health information technology company.

Q: How do these programs work?

A: Both Uber Health and Lyft Concierge provide software that allows health care coordinators to directly order medical transportation rides for their residents and patients. Health care organizations can also contract with third-party facilitators to coordinate rides and handle billing.

Q: What if a patient doesn't have a smartphone?

A: A 2018 report by Pew Research found that 15% of seniors over the age of 65 don't have cell phones, and 54% don't have smartphones (www.pewinternet.org/fact-sheet/mobile). The Uber and Lyft medical transportation services take this fact of life into account.

In some cases, the patients will get text messages with details about the timing of pickups and information about the driver, such as the car's model and license plate number. In other cases, such as when patients don't use text messaging or don't have a cell phone, a coordinator or a facilitator contacts the patients directly with these details.

Q: Do these services provide access to disabled patients or those who need extra help?

A: Sometimes. Both Uber and Lyft have faced intense criticism — and lawsuits — over their limited ability to provide services to disabled people.

The services do accept foldable wheelchairs and walkers if there is space for them in the trunk or back seat. And now both services offer wheelchair-accessible vehicles in some markets — although not through Lyft Concierge — and both are working to connect passengers to outside transportation services for the disabled.

In some areas, Uber passengers can request Uber Assist rides with drivers who are trained to help people get in and out of vehicles. Lyft doesn't require drivers to assist passengers, or provide special training to help drivers meet the needs of NEMT customers.

Q: How much do the rides cost?

A: Ride rates for Lyft and Uber vary widely depending on a variety of factors. Both use "surge pricing" — temporary rate increases when more people are requesting rides in a region — and both disclose the cost of a ride before it's booked. Rides are more expensive if extras are added, such as if a passenger wishes to ride in a larger or luxury car.

There's no extra charge for health care organizations to use Uber Health or Lyft Concierge technology to order rides. However, any intermediaries — the third-party facilitators — may impose extra charges.

Q: Are Uber and Lyft cheaper than taxis?

A: In general, yes.

Using a service called RideGuru that compares transportation prices, *Caring for the Ages* examined ride costs in two cities — Omaha, NE, and San Francisco — on a Tuesday afternoon in April 2019.

In Omaha, a 4-mile ride from an assisted living facility to a geriatric medical practice cost $9 via Uber or Lyft or $16 for a traditional taxi. Passengers could order an SUV via either service for $13; Uber Assist was not available.

In San Francisco, a 5-mile trip from a nursing home to a urology practice cost $12 (Uber), $15 (Lyft), or $16 and $21, respectively, for larger cars. Uber Assist was available for $12, and a taxi cost $23.

Keep in mind that tips are expected but not mandatory for Uber, Lyft, and taxi drivers. Passengers, however, generally do not give cash directly to rideshare drivers. Tips are handled through the Uber or Lyft software.

Q: What about insurance coverage?

A: Payers may or may not provide reimbursement: It all depends on their policies regarding NEMT.

Medicaid is required to provide NEMT, although there are worries that the Trump administration will target the hundreds of millions of dollars that are spent each year to get low-income patients to appointments.

Medicare doesn't require NEMT reimbursement, although there are some plans provide it to 25% of Medicare Advantage beneficiaries, according to a 2016 report in *Health Affairs* (http://bit.ly/2GiLSOf).

At CareMore, rides are reimbursed via Medicare Advantage, said Scott Rinefort, MBA, senior director of product design, in an interview.

Q: Will patients and residents accept ride-sharing?

A: It depends. Some patients prefer traditional services, Mr. Rinefort said, while others are more receptive. "Sometimes they're not initially comfortable with Lyft," he said, "and over time they become more comfortable and give it a shot."

Q: Are these services HIPAA-compliant?

A: Yes. However, there is a cybersecurity risk, especially if organizations integrate Lyft or Uber technology into their computer systems.

Uber already has a poor history of keeping its records private. According to National Public Radio, Uber paid a $148 million fine in 2018, two years after hackers stole the personal data of approximately 25 million users and drivers in the United States. Uber didn't disclose the hack although it was required by law (NPR, Sept. 27, 2018; https://n.pr/2DwkLhm).

In an interview, attorney Erica Mallon, JD, corporate counsel with the health information technology company Greenway Health, urged organizations to "consider potential cybersecurity exposure, including the risk for a breach of patients' protected health information and whether the provider's electronic medical record system could be accessed or hacked."

Q: What about the safety of passengers?

A: Highly publicized incidents of assaults by ride-sharing drivers have battered the reputation of Uber and Lyft. However, drivers do undergo background checks, and both services say they're working to improve safety. Last year, for example, Uber adjusted its background check process so it will be notified quickly if criminal charges are filed against drivers.

Q: Is there information about how partnerships have worked?

A: There's little research so far on these partnerships. The only major study, published in the *Journal of the American Medical Association* in 2016, examined how patients in the CareMore system fared during a two-month pilot Lyft program that year (JAMA 2016;316:921–922).

The results were promising, and CareMore then expanded its Lyft program to encompass 75,000 Medicare Advantage patients in California, Nevada, Arizona, and Virginia. In 2018, the study authors offered updated statistics in *Health Affairs*. They reported that patients took nearly 69,000 Lyft rides in 2017, and the on-time performance (rides arriving within 20 minutes of scheduled pick-up time) was 92% versus 74% for other rides. The wait times were shorter for Lyft rides compared with other rides (9 minutes vs. 17 minutes), and nearly all riders who responded to surveys said they felt safe during rides (96%) and were satisfied with the ride-sharing service (98%) (http://bit.ly/2O3au3O).

On average, the Lyft rides cost 39% less than other rides, according to CareMore. "We have reinvested those savings, allowing us to offer 20% more rides year over year," said Mr. Rinefort, a coauthor of the 2016 study and the 2018 update.

Another study, this one published in 2018 in *JAMA Internal Medicine*, offered more discouraging findings. However, it focused entirely on low-income patients. Researchers found that access to ride-sharing didn't lower no-show rates (37%) among Medicaid patients in Philadelphia (JAMA Intern Med 2018;178:383–389).

Q: How do partnerships with Uber or Lyft work?

A: Both companies declined to provide details about individual contracts with health care organizations, although they did provide partial lists of partner organizations including Blue Cross Blue Shield, Ascension, and Cigna HealthSpring (Lyft); and MedStar Health, LifeBridge Health, and Yale New Haven Health (Uber).

In some cases, health care organizations may partner with Uber or Lyft via an intermediary. CareMore, for example, partners with Lyft via American Logistics Company, an NEMT provider. CareMore doesn't use the Lyft Concierge system, Mr. Rinefort said, and instead schedules rides through its own dedicated full-time employees.

Q: How can my facility offer medical transportation via Uber or Lyft?

A: Facilities don't need to establish official arrangements with Uber or Lyft to schedule rides. They can order rides with their own smartphones — and their own credit cards — for patients or residents who can't do so on their own.

However, facilities may wish to use Uber or Lyft software and integrate it into their own systems. For details, visit www.uberhealth.com or www.lyft-business.com/healthcare. Or ask your NEMT provider if it works with a rideshare company.

Randy Dotinga is a San Diego-based freelance writer.