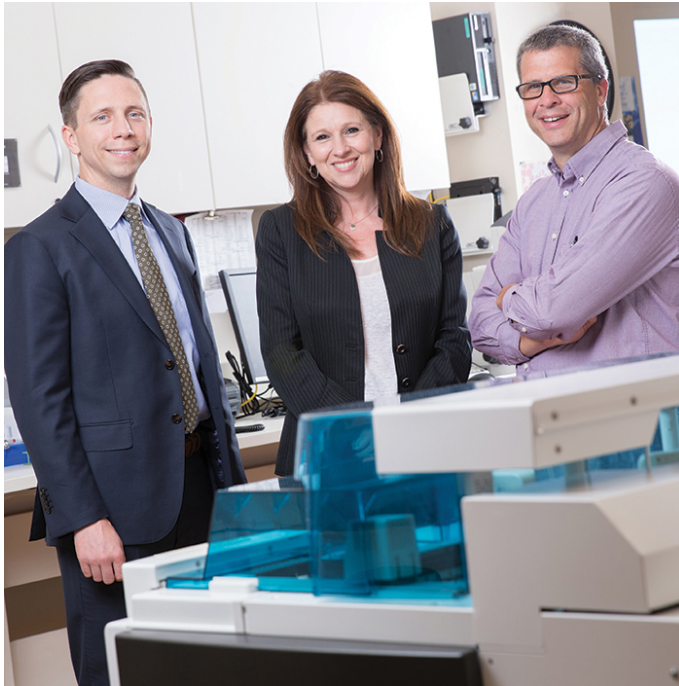


Diagnostics anchor freestanding ED

Anne Paxton

June 2017—To the business world, “appropriate technology” may evoke the era of tie-dyed shirts, bead curtains, and *Mother Earth News*. But the term, coined by *Small Is Beautiful* author E.F. Schumacher in 1973, comes close to describing the goal of health care systems as they opt to expand their facility footprint with freestanding emergency departments (FSEDs).



OhioHealth in February opened its first all point-of-care testing freestanding ED. “We don’t have a lab test missing that would be a key diagnostic indicator,” says Duane Perry (right), here with Dr. Mark Foran and Marci Dop.

Decentralized, autonomous, smaller-scale extensions of traditional hospital EDs—or, in the case of independent FSEDs, distinct and separate from hospitals—FSEDs are cutting emergency room wait times with their on-demand services, while reaffirming the maxim that bigger is not necessarily better. The Centers for Medicare and Medicaid Services distinguishes between hospital outpatient departments, which the CMS covers, and independently owned FSEDs, not recognized by CMS and considered out of network by many insurers, often requiring patients to pay the ED facility charges and other costs. FSED charges are equivalent to hospital charges, but FSEDs incur considerably lower overhead costs. Both forms of FSED promise easier, faster access and more responsiveness to the needs of their community.

At least in theory. With some 400 FSEDs now established in 32 states, and more on the drawing board, the model has won many proponents since it emerged about eight years ago. In Colorado and, most notably, Texas, where a 2009 law allowed licensing of EDs separate from hospitals for the first time, the spread of FSEDs has been remarkable. But investors’ enthusiasm was shaken by the bankruptcy, announced in April, of early, fast-rising industry leader Adeptus. Operating on a for-profit basis, Adeptus staked its fortunes on operating a network of 90 of its own independent FSEDs and those of health systems with which the company partnered. With the company’s setbacks, the question naturally arises: Can emergency rooms detached from a hospital survive and thrive?

The 11-hospital, not-for-profit OhioHealth system, the largest health system in the state, has the experience to answer with a resounding yes as it continues expanding its network of FSEDs. The health system believes it is well on its way to putting an OhioHealth ED within a 10-minute drive of anyone who lives or works in central Ohio.

“Making overcrowded hospital EDs bigger and bigger is an option that a lot of health systems and hospitals undertake,” says Mark Foran, MD, MPH, OhioHealth’s senior medical director of ambulatory care. “I think the uniqueness of the OhioHealth perspective is to say, instead of making a 48-bed expansion in one of our big hospital-based EDs, there is a better way to decompress hospital-based EDs.”

“Over the last four or five years, we’ve developed a lot of expertise and have innovated a great deal in many areas, including what we do with our lab tests,” says Dr. Foran. “One of the goals with our model is to make the lab testing, the imaging personnel, and the professional team working in these facilities as lean as possible, so the overall cost is lower than what you would see in a hospital-based ED.”

Susan A. Fuhrman, MD, director of OhioHealth Central Laboratories and chair of pathology at Riverside Methodist Hospital, says FSEDs are here to stay for a while because they are so convenient for patients. “Particularly as our emergency rooms become more and more overcrowded, I think we’re going to have to embrace this new challenge. It’s an opportunity for the lab to become a significant partner in providing quality care to this group of patients.”

As laboratorians, “We do a great job, but we’re like hot and cold running water; we don’t get a lot of visibility and nobody knows how complicated our work is. Our visibility as laboratorians has gone up enormously because of FSEDs.”

OhioHealth built its first FSED in 2012 in the Columbus suburb of Westerville; a second one was built in Pickerington in 2015. These two 16-bed “medical campuses” are the larger of the two FSED models OhioHealth is implementing. The 16-bed model has a full-service on-site laboratory that employs medical technologists and does 24/7 reporting. Also on site are emergency physicians, a full-time lab supervisor, a full radiology suite, and a pharmacy, while a part-time CLIA director makes regular visits.



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—Susan Fuhrman, MD

OhioHealth’s smaller eight-bed FSED—the system opened its first in February in Lewis Center and plans to have

seven more operating in its central and northern Ohio coverage area by summer 2018—offers a subset of these services, including an imaging department and a point-of-care testing lab with nurses and radiologic technologists. These personnel multitask to carry out point-of-care testing for the moderately complex lab in the FSED's 8,000 to 10,000 square feet of space.

"The biggest difference with our smaller eight-bed FSED," Dr. Foran says, "is that the lab has transitioned to entirely point of care. We wouldn't likely have been able to do this 10 years ago. But point-of-care technology has evolved and advanced in the last decade or two."

To prepare for adoption of this new point-of-care model, OhioHealth laboratory staff went to Texas for an on-site visit of FSED labs to see how their menus and processes were working. In the end, OhioHealth decided on a broader test menu than what it saw in Texas, says Marci H. Dop, OhioHealth system vice president for laboratory services. "There were challenges in making decisions about the tests. The devices all use different methodologies and have different menus. We worked very closely with the physicians on what they could expect from point-of-care results, how they differ from results from the main laboratory, and made sure they understood when to send something into the main lab for validation and when not."

Training posed an additional challenge. "We actually hired additional POC staff in the lab dedicated to training clinicians there and maintaining competence. It's definitely a different workload for clinicians. You have to look for a special kind of associate to do that kind of work."

One of the benefits of going through the FSED formation is that "we have a much tighter partnership with the physicians and staff in the ED than we've seen historically in the past. We're best friends now," Dop says. "We're right there with training, and we're right there helping them understand the instruments and the results. Before, they were more hands-off. Now it's really a partnership."

Retail centers will often be the locus for these new

FSEDs, says Duane Perry, MBA, BSN, RN, who has been nursing director of OhioHealth emergency services for the past nine years and is now director of operations for the point-of-care FSED project. "Where people go to get their groceries and gas and do banking, they also want to get their health care services." For the health system's planned FSED in Reynoldsburg, he says, "we tore down a Burger King in the middle of a Kroger parking lot, right downtown in one of our suburbs, and replaced it with an 8,500-square-foot freestanding building with ambulance access."

Coming up with a laboratory solution for such a facility, however, was a challenge. OhioHealth projected 15 to 40 patients a day for the FSED, Perry says, "so that doesn't necessitate hundreds of thousands of dollars for a full-service lab. That's how we went down this path of trying to figure out how robust a point-of-care lab model we could go with."

In Ohio and most states, independent FSEDs are not allowed. "We have to be a hospital outpatient department. We are a large tertiary system and we have attached the FSEDs under our Medicare provider number for one of our hospitals. They have to run 24/7, be well marked as emergency services, be able to take ambulances at all hours, and be run by board-certified emergency physicians." As long as the FSEDs take government payers, the federal EMTALA law (Emergency Medical Treatment and Labor Act) prevents them from discussing the financial aspects of care with patients until they have been medically screened.

After the OhioHealth teams visited FSEDs in Texas and realized point of care was an option, "We were concerned with the expense of a lab and how we were going to do it," Perry says. "Dr. Fuhrman and her team worked with all the different vendors and peer groups to get an understanding of what POC lab testing was available, and we did a crosswalk of the lab testing we routinely ordered in the hospitals' lab department."

The 12 different machines that were decided on gave the FSED a pretty large panel of tests, he says. "We were able to accomplish the majority of what the hospital EDs typically run. Our team feels very comfortable that the

panel we have is able to get our clinicians what they need in order to make a decision about what to do with that patient next.”

T4 and quantitative pregnancy tests, for example, are not on the menu; they are considered to be tests that would be convenient to run in the FSED, but not critical. “We don’t have a lab test missing that would be a key diagnostic indicator,” Perry says.

To bring clinicians up to speed with a system using such extensive POC testing required an educational effort. “We warned clinicians that there’s a fair amount of QC that needs to be done with each test. We’re trying to get that cadence down with our clinicians so it’s not disruptive during the day. Also, we’re trying to learn about the ongoing reliability of the machines themselves. Some of them are a little quirky, so there’s a bit of a learning curve involved.”

On the key metrics for the eight to 10 percent of patients who need to be transferred to a higher level of care, Perry says, the freestanding ED is doing well. “We’ve compared the time it takes for patients to arrive and get admitted at the tertiary hospital versus one of our FSEDs. In many cases, we can demonstrate that by arriving at a freestanding ED location, you get your workup faster, there’s no crowd, and the time between when the patient arrives at the ER door and when they get into an inpatient bed can actually be shorter in some instances in the FSED.”

For “door to balloon” intervention times—between arrival and first device used for emergency cardiac care—the gold standard is 120 minutes. “We can run 85 to 95 minutes on those times. And for time from stroke to tPA intervention, we’re also able to meet those milestones. These metrics demonstrate we’re delivering the same level of care without a tertiary hospital attached.”

The FSED laboratory is a big part of that success, Perry says. “In the point-of-care model, our lab results come back faster. They don’t get put on a shelf. They don’t get lost to an analyzer where they are part of a larger panel. You can finish the test and get the result in a quicker turnaround time, so the length of stay of just the discharged patients is a lot shorter as well.”

Perry says the FSED could well be the way to address ER overcrowding. “We have a large hill to climb. We’re trying to meet the needs in our communities, but if you have ERs that continue to be crowded despite hospitals expanding and improving, you still have an overwhelming access problem. And we as health care providers have to address this.” The old model involved putting a new expensive hospital in suburb X because that community was growing, Perry adds. “But now everything is so outpatient-driven, with technology and innovation and efficiency, we can provide a lot of those health care services at lower cost without building those larger tertiary facilities.”

But health systems have work to do to get people in the communities to understand FSEDs, especially when the system has urgent-care sites as well (OhioHealth has 11). “Consumers now drive by a beautiful building on a parking lot of a retail center and are thinking: Is that urgent care? Is that a clinic? Is that an ED?” In an effort to take responsibility for education, he notes, OhioHealth has an app with a map and pins for all its urgent-care and emergency-care facilities, with pop-ups that list, for each pin, “conditions we treat at this facility.”

Consumer needs are changing, Perry says. “They have a lot more choices, they want things faster, more convenient, and more affordable, and we’re trying to accomplish that. We absolutely could have put a robust lab system in our FSED, but it would have driven up the cost of care, and we’re committed to driving down the cost and driving up the value of health care. We don’t want the consumer to have to make a decision on which ER to go to based on which tests they offer.”

OhioHealth’s network of eight-bed FSEDs is slated to cost almost \$52 million by summer 2018, but the health system believes it is money well spent, in place of further expansion of the hospital-based EDs, Dr. Fuhrman says. “We built new EDs at our three biggest hospitals, two with 800 beds and one with 500 beds, and all three of those

EDs are incredibly busy. FSEDs started because of the demand, and there's demand either because the traditional EDs are overutilized, undersized, or inefficient, and patients can't get in and out easily."

Part of the problem, of course, is that some consumers arrive at an ED for a level of service they don't really need. "As we know, people are coming into the bigger hospital EDs with everything from an ingrown toenail to a ruptured aortic aneurysm," Dr. Fuhrman notes. OhioHealth believed that by providing emergency services closer to where people live, with shorter wait times and with a goal to provide the care at a lower cost than a traditional hospital ER, it could take some of the pressure off the bigger EDs.

For the eight-bed FSEDs, the laboratory faced unique challenges. A point-of-care coordinator visits them regularly. "But we were going to have nurses doing moderately complex testing, particularly CBCs, and we wanted to mistake-proof our instrumentation and the reporting, so we selected instruments for ease of use and workflow," Dr. Fuhrman says. "Every instrument in the facility is interfaced to our central lab system, and results deemed by our rules to be okay are released to the ED system and available for physicians to view." Flagged results that are not released indicate a possible specimen issue and inaccurate results. They're held by the information system with a comment suggesting the specimen be sent to the clinical laboratory for analysis.

The instruments are considered point of care and fit into a room the size of a large closet. "The biggest one may be the size of a large coffeemaker," Dr. Fuhrman says. But there's more laboratory testing being done at these FSEDs than she expected. "We do quite a few troponins, molecular flu tests, CBCs, basic metabolic panels, and since a lot of the patients are older folks and we don't have a history on them, they are going to get basic lab tests." As molecular platforms become sophisticated enough that they too can be used by non-lab personnel, she expects the FSEDs will be adding other molecular tests.

The most challenging test to set up was the CBC, because wherever those tests are done in affiliation with hospitals, medical technologists look at about 15 percent of the slides to determine whether the results make sense, Dr. Fuhrman notes. Hundreds of rules were set on which results could be released to clinicians and which results had to be held. "They have to do platelet estimates, look at clotting of red cells, notice unusual red cells—the concept of releasing CBCs without the opportunity for someone trained to look at the slides is very much anathema to laboratorians. That was a 'horror point' for a lot of people."

OhioHealth's eight-bed FSEDs will have a "pretty significant" moderately complex menu, she adds, including metabolic panels, liver function and renal function panels, CBC, urine drug screens, prothrombin time, infectious disease tests, D-dimer, amylase, and more. Currently these are performed using the Abaxis Piccolo Xpress, Alere Epoc and Triage MeterPro, Sysmex pocH-100i, Accriva Hemochron Signature Elite, Siemens Clinitek Status Connect, Alere Aceava, and Quidel Sofia point-of-care instruments and tests. Tests for blood alcohol, acetaminophen, CSF cell count and differential, salicylate, and blood typing, among others, are to be sent to the central laboratory, typically with a turnaround of two hours.

The system's FSED test menu contrasts with that of widespread urgent-care facilities. "The FSEDs are providing emergency care for severe and life-threatening conditions—bleeding, shortness of breath, chest pain—whereas the urgent-care facilities are for a different group of patients, those with burns, allergic reactions, and other non-life-threatening conditions," Dr. Fuhrman says. "Many urgent cares don't perform any tests, and if they do they are likely to be waived tests, not cardiac markers, troponins, or blood gas. They would have a pretty minimal menu, much more like a physician's office."

One benefit of the lower wait times at FSEDs is that patients are much less likely to leave without having received medical care, Dr. Fuhrman says. "That's one of the metrics we use at the hospital to see whether we're meeting patient demands. We track it every day and work very hard to keep it as close to zero as possible."

In her experience, people with chronic illnesses are not typically coming to FSEDs. However, "FSEDs are a perfect place for people with exacerbation of chronic conditions to go because we've got emergency physicians who know how to handle them, we have much faster throughput, and if patients have to be admitted to the hospital, there's the potential to get those worked up, diagnosed, figured out, and moved through much more efficiently, because

the FSEDs generally don't have so many patients backed up."

Dr. Fuhrman doesn't see FSEDs as increasing health care costs, as some fear. "We believe our FSEDs will actually decrease costs and prevent inappropriate hospital stays, by treating low-acuity patients closer to home and managing their care before they have to be hospitalized. If you have the ability to handle patients rapidly, get them stabilized, and send them home, they're less likely to wait until they're near death and then show up in your ER."

Shorter wait time, of course, is the central advantage of FSEDs. "What tends to happen is patients come in, they're seen very quickly by a physician, and their overall time in the FSED to receive their care and depart is also much lower," says Dr. Foran, ambulatory care senior medical director. Those two metrics are key drivers of how people assess the quality of their care. "A high degree of timeliness and high customer satisfaction have been found across the country with the FSED model, and we've also found that. Our two FSEDs have had absolute best-in-class performance on patient experience measures."

He credits OhioHealth's not-for-profit nature with helping it avoid the troubles experienced by Adeptus. "Our primary mission is to improve the health of the communities we serve, not to create profit or maximize shareholder value, and that has an influence on the way we do everything, including our FSEDs."

OhioHealth stems problems, too, by educating the community on what FSEDs do and when to choose emergency versus urgent care. "One criticism of Adeptus was that they had a naming convention that was not that clear, and they are a little more tolerant of urgent care patients coming into their FSEDs, then receiving very high bills for their care. We are committed to very clear signage. We have a whole program making sure we use the word 'emergency,' for example, in very large red letters at the top of the building, and asking anyone who walks into one of our FSEDs whether they are there to see an emergency physician."

In addition, OhioHealth is not cherry-picking patient populations that are less likely to be uninsured by locating FSEDs only in well-off neighborhoods. "That's been another major area of criticism Adeptus has fielded as a for-profit chain. We've taken a fully need-based assessment and we're putting some of our FSEDs in completely underserved areas," Dr. Foran says.

He doesn't think of OhioHealth as leveraging its FSEDs for competitive advantage, noting that one of the region's urban hospitals is about to close and that will exacerbate the strain on EDs. "We're primarily leveraging our FSEDs to service communities' needs for emergency care, not only to improve things now but also to stay ahead of future demand."

For other hospitals that may be contemplating an FSED, he advises learning as much as possible about the types of FSEDs now operating. "The FSED model has great potential to be leveraged for value and to improve the quality of emergency care in a community or in a health system. But thinking creatively about how to integrate FSEDs into a health system is important. Connect with health systems and groups that have opened FSEDs and do site visits. It's a space that has changed rapidly in the last few years, and if people go out and proactively learn about it, I think they will find there's a lot of potential for positive impact."

For laboratories themselves, the story is a bright one. In building FSEDs, "We've taken the top off the box," Dr. Fuhrman asserts. "So the nurses are amazed. They say, 'You have to do *what* in a moderately complex lab?' They find it both sort of fascinating and overwhelming. Their respect for the lab and our abilities and knowledge base has gone up exponentially, and I think that's a really big plus of FSEDs. It's getting us closer to the patients."

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Anne Paxton is a writer and attorney in Seattle.