Mercy Health Network (MHN), a leading health care system and one of Iowa’s largest employers with more than 20,000 colleagues, officially changed its name February 1, 2019, and unveiled a new brand. MHN is now MercyOne. Mercy Clinical Laboratory is now MercyOne Des Moines Laboratory.

The branding reflects the organization’s significant growth over the last 20 years and is a key step in connecting its many points of care across the state and surrounding regions. The effort will make it easier for consumers to identify care locations, enhance the coordination of medical expertise and services and ensure consistent patient care experiences across all locations.

With the new brand, MercyOne’s 18 owned and joint venture medical centers and hospitals, as well as more than 420 clinics and related care facilities have modified their names and adopted the new logo. Names now link facilities regionally to the communities served. For instance, new naming includes MercyOne Des Moines Medical Center (formerly Mercy Medical Center – Des Moines) and MercyOne Waterloo Medical Center (formerly Covenant Medical Center).

All 25 affiliated hospitals and facilities contracting with MercyOne for management support, statewide initiatives and strategic benefits will continue to retain their local governance and current names.

“Our new name and brand look represent an important step in coming together as an organization. The unified brand launch extends and amplifies the impact of work to unify our culture and supports many of our strategic initiatives,” said Janell Pittman, chief marketing and digital strategy officer at MercyOne.

Calprotectin testing
by Clinton Crowder, M.D., Pathology Associates of Central Iowa

MercyOne Des Moines Laboratory is pleased to announce that, coming soon, we will offer stool calprotectin testing as a useful adjunct in the diagnosis of idiopathic inflammatory bowel disease (IBD).

Calprotectin is a zinc and calcium binding protein expressed primarily by granulocytes (and to a lesser degree by monocytes), comprising almost 60 percent of the cytoplasmic protein content in neutrophils. As such, it is a fairly reliable marker of neutrophil activity. When the intestinal immune system is activated, cells from the innate immune system, including neutrophils, are drawn to the gastrointestinal mucosa. These neutrophils are then activated, leading to the release of their cellular proteins into the surrounding tissue and eventually into the gut lumen. Calprotectin is then absorbed by the fecal material and excreted. Fecal calprotectin levels are proportional to the number of neutrophils within the colonic mucosa and therefore can be used as an indirect marker of intestinal inflammation.

Calprotectin has been shown to be a useful test in the initial workup for CONTINUED ON PAGE 2
Clostridiodes difficile infection (CDI) is one of the most common causes of healthcare-associated infections. Early and accurate diagnosis of CDI is paramount to providing optimal care for patients with this infection, in addition to decreasing the risk of transmission to other patients. CDI imposes a significant burden to the U.S. health system, resulting in an estimated $1 to $1.6 billion in direct medical costs, with excess hospital costs of approximately $6000 per case for those diagnosed with CDI compared to those without CDI.

Currently there is not a single stool test that can be relied upon as a reference standard for the diagnosis of CDI. For decades, C. difficile toxin tests were favored because these tests are fast and provide evidence of toxin production that typically correlated with clinical disease. New molecular tests such as polymerase chain reaction (PCR) target toxin genes but will detect the presence of C. difficile bacteria regardless of toxin production, making it unclear if the positive results reflect clinical disease or colonization. Facilities that have switched to PCR or nucleic acid amplification testing (NAAT) have reported substantial increases in the rates of CDI. Those that have too high of hospital-onset CDI can be faced with Centers for Medicare and Medicaid Services (CMS) payment penalties, which can have substantial financial consequences.

Impact of CDI on hospital finances

Rates of hospital-acquired infections factor in to the Centers for Medicare and Medicaid Services (CMS) reporting and payment programs. Reporting hospital-onset CDI to the National Healthcare Safety Network (NHSN) is required for payment determination as part of the Inpatient Quality Reporting (IQR) program. In the Hospital Value Based Purchasing program, 2% of hospital Medicare payments are redistributed based on performance in four categories: clinical care, safety, experience of care/care coordination, and efficiency/cost reduction. CDI rates are within the safety category as one of the seven elements that comprise 25% of the performance score determining the value-based payment. In the Hospital Acquired Conditions Reduction Program, hospitals in the most poorly-performing quartile are penalized 1% of hospital Medicare payments. Most of the performance score is determined by hospital-acquired infections, and CDI is one of those included in this category as well. Facilities have substantial incentives to avoid hospital-onset CDI because of the financial pressures from payment cuts.

CDI laboratory testing

The updated guidelines on the diagnosis and treatment of CDI by IDSA and the Society for Healthcare Epidemiology of America (SHEA), published in 2018, provided the recommendation that a multistep testing algorithm should be used rather than PCR or NAAT alone. Based on the new guideline and the fact that there is a financial incentive to have low rates of CDI, MercyOne Des Moines implemented these recommendations into clinical practice.

First, a CDI testing algorithm was created and implanted in July 2018. The focus of the algorithm was to assist providers in ordering C. difficile testing on patients who met the clinical criteria for possible CDI and to assure that patients were not receiving laxatives, stool softeners or lactulose in the previous 24-48 hours. This algorithm was incorporated into the electronic medical record, so when a provider orders a C. difficile toxin PCR test, the provider must stipulate that the patient had three or more stools in the last 24 hours, and whether they received laxatives, stool softer or lactulose in the previous 48 hours.

The second strategy was implementation of a two-step testing method which began in November 2018. All stools positive for C. difficile toxin by PCR are tested for toxin production utilizing the ImmunoCard EIA toxin test. This is to help clinicians determine if the positive PCR was due to colonization or active infection if the EIA test is positive for toxin. While most patients that have a positive PCR or NAAT and a negative EIA toxin test C. difficile are colonized and don’t have active CDI, there is a possibility of false negative EIA results. This is because

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New Dictation System

Beginning February 2019, the Pathology department at MercyOne Des Moines Laboratory began transitioning to Voicebrook’s VoiceOver PRO system, a speech recognition program designed specifically for pathology. PRO allows our pathologists, pathology assistants and surgical pathology technicians to use speech commands, insert templates and complete variable fields by voice. When using PRO, the Pathology staff are also able to control certain functions within Cerner, allowing them to put more focus on the specimen/slide.

This program is moving us toward more standardized reporting and efficiency while freeing up transcriptionists to edit reports rather than typing the whole case. All of these items lead to better turnaround times on reports that are easier for clinicians to read. Better reporting and turnaround times ultimately lead to better patient outcomes.

Chief Pathologist Dr. Matthew Andres said, “By incorporating Voicebrook into our workflow, we believe we can improve standardization of our pathology reports and turnaround time. The Voicebrook product allows our office staff to focus on more complex patient-care tasks. I think we were all a bit apprehensive about switching to something new, but thankfully the transcription software has been fairly simple and straightforward to use. The product is incredibly intuitive considering we all have our own individual speech patterns and intonation.”

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suspected IBD. Stool calprotectin levels tend to be normal in patients with non-inflammatory causes of chronic diarrhea such as irritable bowel syndrome (IBS) or food intolerance, but are increased in the setting of inflammatory diarrhea. When used for this purpose (i.e. distinguishing IBD from functional gastrointestinal disorders), fecal calprotectin has a sensitivity and specificity both of approximately 85 percent. While there is some potential for expanding the use of this test to colorectal cancer screening and monitoring of disease activity in established IBD, its test characteristics are not yet sufficiently defined for routine application for these indications.

Fecal calprotectin is a useful test in the evaluation of chronic diarrhea, but is not, in and of itself, entirely diagnostic for IBD, as it is frequently elevated in other diseases associated with neutrophilic inflammation of the GI mucosa (i.e. colorectal cancer, NSAID use, infectious colitis, etc.). Similarly, falsely decreased levels can be seen, most notably in patients with neutropenia or granulocytopenia.

Interpretation:
Calprotectin concentrations of 49.9 mcg/g and lower are not suggestive of an active inflammatory process within the gastrointestinal system. For patients experiencing gastrointestinal symptoms, consider further evaluation for functional gastrointestinal disorders.

Calprotectin concentrations between 50.0 and 120.0 mcg/g are borderline and may represent a mild inflammatory process, such as in treated inflammatory bowel disease (IBD) or associated with NSAID or aspirin usage. For patients with clinical symptoms suggestive of IBD, retesting in four to six weeks may be indicated.

Calprotectin concentrations of 120.1 mcg/g and higher are suggestive of an active inflammatory process within the gastrointestinal system. Further diagnostic testing to determine the etiology of the inflammation is suggested.

Watch for a Laboratory Update for additional details.

New billing system for outreach laboratory specimens

On Nov. 1, 2018, MercyOne Des Moines Laboratory implemented a new billing system for all outreach laboratory testing coming from clients. With the new billing system come many enhancements, including:

- Patient friendly billing statements
- New customizable client statements
- Client portal access for real-time statements, prior statements, and current aging activity
- Client portal access for price inquiry

Much work has gone into setting up the system, validating the system and optimizing electronic automated workflows. Please note, the demographic information entered in Atlas is feeding directly into the billing system. It is imperative to ensure the accuracy of this information (in Atlas or submitted on paper requisitions) to ensure timely and accurate billing.

Contact Teresa McDonough, Business Development Coordinator, at tmcdonough@mercydesmoines.org if you would like more information about our new client portal.
the sensitivity of the EIA toxin test is lower than both PCR and NAAT testing methodologies.

If, after a negative EIA toxin test, the clinician feels that the patient truly has CDI, treatment may be indicated. However, it’s important to note that when hospital CDI rates are reported to NHSN, the last test result for the patient should be used. An example of this is that if a patient has been hospitalized for a week, and has a positive C. difficile PCR, and a negative EIA result, that case doesn’t get reported to NHSN as a hospital-onset CDI case even if the patient is treated for infection since the last C. difficile test was negative. Hospitals generally see a decline in their CDI rates when moving to a multi-step testing algorithm by identifying those with colonization versus true CDI. The initial data from Mercy One Des Moines has shown a dramatic decrease in hospital-onset CDI after implementation of the new testing methodology.

Infection prevention and antimicrobial stewardship

It is well known that CDI is almost always preceded by the use of antibiotics. Up to 60% of hospitalized patients receive antibiotics at some point during their admission and roughly 30–50% of those used are inappropriate. The role of antibiotics stewardship in improving patient care and health outcomes has been well documented, including reducing rates of CDI. Antimicrobial stewardship interventions proven to reduce CDI include reducing the use of high-risk antibiotics through either active audit and feedback to prescribers, or through antibiotic restriction policies have both been successful.

The importance of infection prevention measures cannot be stressed enough when dealing with C. difficile. The guidelines recommend that patients with CDI should be placed on contact precautions for at least 48 hours after diarrhea has resolved. Prolonged contact precautions until the patient is discharged can also be considered if CDI rates remain high despite implementation of standard infection control measures against CDI. Proper hand hygiene before and after contact with a patient with CDI should be enforced by all facilities. Preferably, hand hygiene should include thoroughly washing hands with soap and water over the use of alcohol-based products because soap and water remove C. difficile spores more readily than alcohol-based products.

Clinical practice guidelines for Clostridium difficile infection in adults and children: 2017 update by the infectious disease society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA): accessed at: https://www.idsociety.org/practice-guideline/clostridium-difficile/