

### Overview

Margaret Mary Health (MMH), located in Batesville, Ind. (population 7,500), is a not-for-profit, critical access hospital employing nearly 850 team members serving a population of more than 30,000 residents. MMH saw a surge of COVID-19 patients in early to mid-March and is proactively monitoring the coronavirus pandemic and taking aggressive precautions to stay ahead of the surge.

Despite MMH's proactive efforts, in late March, a few providers and team members tested positive for COVID-19. Rural hospitals typically have inherent challenges such as older and sicker patients; fewer physicians and support staff; and older facilities and unreliable transportation. This added burden of staff falling ill presents an even greater challenge while treating patients and anticipating a surge.

While many rural areas have not yet felt the COVID-19 crisis, as of this writing, the counties surrounding MMH have already reported 180 positive cases – one in every 400. MMH has had 37% of lab tests come back positive, much higher than the 20% the state of Indiana has observed, on average.

### Impact

MMH's surge plan utilizes a multi-phase approach utilizing 25, 36, 44 and 58 beds. It is currently contemplating raising the number to 72. COVID-19 patients' average length of stay is 10 to 14 days, during which a ventilator is needed. The combination of patient volume, average length of stay and loss of staff made it imperative to use the time prior to a peak to swiftly plan.

Many of the first patients presented with non-traditional COVID symptoms: headache, weakness, upset stomach and backaches, to name a few. MMH staff adopted a full-mask protocol for all patient interactions, regardless of symptoms. They began with a staff deficit, keeping current staff protected and healthy became a priority.

### Lessons Learned

COVID-19 reached MMH before many other rural hospitals. Consequently MMH is testing and treating COVID-19 patients. Their experience to date has yielded some valuable lessons:

- **Don't depend solely on lab testing.** With a high false negative rate, they can be unreliable. MMH's physicians have learned to trust the physical exam, markers such as low O<sub>2</sub>, and a chest x-ray or CT scan as a more definitive determination of COVID-19.
- **Telehealth is necessary to manage some outpatients and can be used as an adjunct to help inpatient physicians with complex patients.** Having a pulmonologist tele-consult to aid in managing ventilators may be very valuable. If you have only one provider, telehealth is a must as a force multiplier.
- **Conserve your PPE.** Ziploc bags containing silica gel packs were distributed to each team member to store-used masks. If an effective way to clean these masks surfaces, they may need to be reused. Do not throw away any mask unless it is soiled or torn.
- **Develop a good return-to-work plan.** COVID-19-positive staff will need time to recover; know when they can safely come back to work.
- **Consider your transfer service options.** Many 911 emergency medical services do not currently provide hospital-to-hospital transfers; be prepared to have a crucial conversation with transportation providers.
- **Separate facilities.** If possible, use separate buildings for medically needy but likely not COVID-19-positive and another for acute, possibly positive COVID-19 patients.
- **Establish an efficient command center, make sure decisions are prioritized.** If you have a process improvement team, use them to reduce the chaos and coordinate the team's work.

- **Use your community.** Many want to help, donate and support, name a coordinator for these efforts. Many may be angry about visitor restrictions or other necessary policies, community support will be very beneficial. Examples of community support: loaned RVs onsite, homemade masks, food donations, medical supplies from homes, drivers for lab specimens and ministers coordinating prayer vigils. The more people from your community on your team, the better.
- **Have a daily communication plan for your staff.** Many in the community will be looking to health care leaders for information and guidance. Make sure all information is given, both favorable and unfavorable.
- **Consider competing hospitals your friends.** A pandemic calls for everyone pulling resources and working toward a common cause.
- **Set up an alternative work site.** For people who cannot work at home or cannot access the internet, this is crucial. Local schools are excellent places for a temporary workspace.
- **Create an intubation team.** MMH has had up to 6 people on ventilators at one time, more than it usually has in a quarter.

## Future Goals

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MMH's early cases of COVID provided the insight needed to enact a swift and aggressive plan to stop the virus spread, keep employees safe and provide care to those in need. For MMH, the future is now and immediate action is needed to diminish the impact of the surge. Predictive modeling estimates a peak between April 19 and May 1; MMH anticipates long days ahead.

Collaboration with area health care leaders and organizations is essential to successfully managing through a disaster such as COVID-19. MMH has developed two types of partnerships with its area health care providers.

1. **MMH has formalized a staffing support system with area community hospitals.** Specifically, providers have agreed to share staff should one be compromised in a particularly vulnerable area. Rural hospitals often lack bench strength. There simply are not enough clinical providers to meet

demand. Therefore, the loss of two or three staff in one department could result in the complete loss of capability in key areas like respiratory, emergency services, surgery, obstetrics, etc. Shifting clinical staff between hospitals where and when it is needed provides bench strength.

2. **Discharge and referrals must be managed prudently.** It isn't necessary to refer all patients to a tertiary care hospital. What is necessary are clear protocols for stabilizing, referring and receiving patients. MMH is designing algorithms to determine who should be transferred, where and when. COVID-19 patients can decompensate quickly; therefore, the more streamlined this process, the better.

The shortage of PPE is endemic. MMH is working with the state and others to determine how to disinfect masks if it becomes necessary. MMH is storing used masks should this become a necessity. MMH also has a design for a hand sewn mask with a pocket for a filter insert. If an appropriate microfiber insert material is determined, then these masks can be sanitized and returned to service quickly. The team is experimenting with H600 surgical sheets and other fabrics to find what may work in an emergency.


Cross-training current staff helps alleviate shortages in all departments. MMH services typically run around 80% outpatient and 20% inpatient. Under the current crisis, they are planning to serve twenty percent outpatient and 250% inpatient. That means cross training many staff to meet the need. Training and preparing providers and support staff as quickly and effectively as possible to assure safety and competence is essential to successfully managing the COVID-19 pandemic.

## Contact

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