Potomac Valley Hospital (PVH), a 25-bed Critical Access Hospital in Keyser, WV, is part of the West Virginia University Health System, the state’s largest health system. Home to about 5,500 residents, the town is situated in a valley near the Potomac River, New Creek Mountain and the Allegheny Front.

J.W. Ruby Memorial Hospital (RMH), a 690-bed academic medical center and Level 1 Trauma center about 90 minutes from PVH in Morgantown, WV, is the system’s flagship hospital. As the system has grown and referral patterns have changed, Ruby frequently has too many patients waiting for too few beds. In stark contrast, Potomac Valley has seen volumes shrink to the point that its census was zero and it was losing $1M per year. The hospital was forced to close its ICU and struggled to retain staff.

To boost volumes and keep higher-acuity Mineral County patients close to home—a win for the rural hospital, the system, patients and an over-capacity Ruby Memorial—PVH is a pilot site for a telemedicine Intensive Care Unit Program initiative of the West Virginia University Health System. In October 2018, the Virtual ICU admitted 35 patients in its first month of operation. The program allows PVH providers to collaborate with board certified intensivists from RMH and offer quality care for higher-acuity cases while keeping patients close to home.

Alison Wilson, M.D., executive director for the Critical Care and Trauma Institute, leads the project on behalf of WVU Medicine; Dr. Wilson and her intensivist team conduct virtual rounds at the Potomac Valley ICU every morning, and intensivists are on call 24/7 to help support local PVH physicians with emergent concerns.

One year into the telemedicine efforts at PVH, local providers regularly discuss patient care with intensivists at WVU Medicine to whom they connect in just one click. The care team shares decision-making to implement treatment and/or interventions quickly. Prior to the advent of telemedicine, this level of care was only available at larger tertiary facilities.

The technology investment, covered by WVU, was nominal. PVH uses iPads on stands, and each time a session is initiated, a caregiver brings the iPad into the patient’s room.

The Virtual ICU program at Potomac Valley has been a boon to patients who prefer to stay close to home whenever possible. Local care options lessen stress for patients and their families during an already emotionally taxing time. And as part of the WVU system, PVH patients have a bed ready at Ruby Memorial should they need to be transferred for more advanced care.

Potomac Valley was extremely well suited to piloting telemedicine: the physicians needed more resources, the Community Health Needs Assessment identified patient transportation as a major concern, and more than half the patients are Medicare-aged and face other barriers to care. The
beloved mountains of West Virginia create treacherous driving conditions in bad weather, making a 90-minute drive dangerous or impossible.

PVH providers initially had reservations about the collaboration with WVU telemedicine, not uncommon when physicians worry about losing control over local care decisions and serving as a “scribe” to off-premises providers. However, given all the indications that telemedicine could help alleviate many of the financial pressures the hospital faced, providers soon saw the benefits of having a second set of eyes and access to 24/7 care resources. Nurses and physicians now view the WVU partnership as a consultative relationship that allows patients and care decisions to remain local. Patient response has been positive, boosted by the fact that a local provider is always in the room during a telemedicine session; the WVU staff are seen as a supplement to the PVH caregivers.

The positive financial impacts for Potomac Valley are dramatic: since implementing the telemedicine program, the hospital has gone from $1M in the red (2017) to $1.2M in the black (Aug. 2019). The additional care resources have been helpful in recruiting and retaining staff, and two nurse practitioners have been brought on board. PVH recorded 427 critical care days and 101 discharges through August 2019, and an average daily census of 1.76 (up from zero in 2017). Med/Surg has seen increases as well, up 1000 discharges as some of the patients transfer from the ICU.