# Improving Patient Care
## By Combining Humanitarianism With Technology

*WVU Medicine Deploys Cloud-Based CVIS to Expand Access throughout West Virginia using PICOM365's Remote Imaging and Consultation Capabilities*

### WVU Medicine is Making a Change

West Virginia residents experience disproportionately high instances of cardiovascular disease in comparison to other states, with greater than 40 percent of adults suffering from hypertension and only two out of 10 adults receiving screening for cardiovascular risks. These statistics, coupled with a shortage of healthcare professionals, provide West Virginia with a unique opportunity for innovation and improvement in the detection of latent cardiovascular disease.



" *"Our goal is to use advanced cardiac visualization and imaging management technologies to detect the early stages of the disease and improve patient care," said Partho Sengupta, MD, Professor and Chief of Cardiology and Chair of Cardiac Innovation at West Virginia University. "ScImage's Cloud-based enterprise imaging solution for cardiology is helping us expand access to high-quality cardiovascular care throughout West Virginia. PICOM365's availability allows remote imaging and consultation so patients can receive services wherever they live."*

WVU Medicine has deployed ScImage's PICOM365 Enterprise PACS at the Heart and Vascular Institute for integration throughout the entire WVU Medicine infrastructure which is anchored by a 645-bed academic medical center and includes four community hospitals, three critical-access hospitals and a children's hospital.

ScImage's PICOM365 is a fully-realized Cloud PACS solution offering a resilient computing infrastructure securely accessible from anywhere utilizing high availability technologies with end-to-end redundancy. Far beyond one instance serving one institution, geo-redundant storage systems with multi-petabyte scalability have the power and flexibility to leverage massive bandwidth for maximum data throughput to simultaneously serve thousands of institutions. PICOM365's secure end-to-end imaging and reporting workflow feature real-time advanced threat analytics along with data encryption at rest and in transit. Additionally, full IT and medical device regulatory compliance capability eliminates all barriers to entry, allowing full functionality with ease.

"ScImage has an excellent solution to support our non-invasive cardiology needs for a project of this scale (advanced reporting capabilities, remote work and full integration with Epic, etc.). With PICOM365, we can make a remarkably positive impact on patient care in West Virginia," said Jim Venturella, CIO WVU Medicine.



*Partho Sengupta, MD, Professor and Chief of Cardiology and Chair of Cardiac Innovation at West Virginia University*
*Photo courtesy of the American Medical Association*

### About WVU Medicine

WVU Medicine unites the physicians and scientists of the West Virginia University Health Sciences Center with the hospitals, clinics, and health professionals of the West Virginia University Health System. Together, they are a national leader in patient safety and quality, and are unified and driven by an unbridled passion to provide the most advanced healthcare possible to the people of West Virginia and beyond.

*Photo courtesy of WVU Medicine*

### The Cloud:
### Disruptive Innovation that Supports a New Age of Caring

PICOM365 delivers secure cardiovascular image management, viewing and reporting capabilities to all cardiology modalities (Cath, Echo, Vascular, Nuclear, Stress, Holter and ECG Management) on a seamless viewing platform, providing WVU Medicine the full benefit of an on-premise solution in a "pure Cloud" offering.

"This comprehensive Cloud solution allows seamless integration of imaging and full workflow customization to meet our specific exam interpretation requirements while empowering physicians to review and report from anywhere. This is a disruptive innovation that supports a new age of caring for patients using automation and speed to provide better and more cost-effective care," added Dr. Sengupta.

ScImage and WVU Medicine, leaders in forging predictive solutions to improve patient care and increase physician efficiency, have worked to optimize structured reporting, with advanced ASE-evaluated measurements and sectional reporting among other productivity enhancements. ScImage's inclusion of full Epic integration providing discrete data, image links, encapsulated PDFs and diagnostic view-and-report capability creates a fluid EHR interaction. Added flexibility to control the presentation of the final report, the by-product of the diagnostic procedure, improves the referring clinician experience.

Grace Verzosa, Assistant Director of Cardiovascular Imaging at the Heart and Vascular Institute, stated the ability to customize the workflow was critical. "To enable our physicians to read current and prior studies and report with maximum efficiency, we needed the freedom to develop our workflow recipe, including customizable hanging protocols, tight integration with quantification and visualization software tools in a consistent SR platform across all cardiology disciplines."

ScImage's open SQL database maintains the quality of images and patient data in its native format to access, run reports, pull priors and customize pre-fetching rules. Full reporting capabilities via VR, transcription and Macros enables automated report generation; and, as technologists enter measurements from echo exams, PICOM365 auto-populates preliminary reports using the most current ASE guidelines.

"Not only is the reporting process more efficient, but it also reduces the need for fellows to conduct preliminary reads and has reduced our report turnaround times," said Verzosa. "PICOM365 has also provided many quality enhancements. For example, I can review studies offline at any time and correct inaccurate measurements for the final report. Additionally, the configurable "To-Do List" includes a reporting checklist, which ensures that reports are completely finalized, assuring a more accurate diagnosis and complete billing."

### Making a Difference in Population Health

The WVU Heart Center Innovation Lab is known for pursuing new technology and methods to increase population health. Dr. Sengupta noted, "Advanced imaging and visualization tools have made tremendous strides in improving the diagnostic process. However, inequality in access to these tools remains, and that is where the automation and speed of Cloud-based imaging technology are so important; improved access leads to better patient care and, ultimately, better outcomes."

Sai Raya, PhD, founder and CEO of ScImage explained, "as Cloud PACS have become more popular, their true definition has become more dubious. With so many companies offering so many Cloud PACS, differentiating between competitors can be difficult, leading to the misconception that simply moving servers from an on-premise cabinet to a commercial data center is a sufficient solution to storing vital data. This is not a solution; this is a single point of failure." WVU, upon careful consideration of all options, determined a pure Cloud solution to be the most effective pathway to improved health access and outcomes for West Virginians.

"By leveraging Microsoft Azure technologies, ScImage utilizes the industry's most advanced Cloud security and encryption technologies allowing us to focus on providing the best care through remote imaging and consultation without worrying about security. ScImage brings industry-leading technology to the table as well as the positive outlook necessary to move innovation from ideas to real solutions," concluded Dr. Sengupta.