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## Summa Western Reserve Hospital official takes part in web conference with Gov. Kasich

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Cuyahoga Falls -- Patient care, physician training and medical research will greatly improve when Ohio's digital super highway speeds up, according to local and state members of the medical field.

Summa Western Reserve Hospital in Cuyahoga Falls was one of four sites around the state that participated in a web conference with Gov. John Kasich Feb. 27 to discuss how a planned upgrade in the state's network bandwidth will benefit medical research and innovation.

Doctors at Summa Western Reserve Hospital in Cuyahoga Falls joined colleagues in Cleveland, Columbus and Cincinnati for the conference where they showed how having greater bandwidth will improve collaboration among medical researchers.

"It is, in so many ways, a potential breakthrough in terms of solving some of the most complicated and vexing problems that we could have, not just in medicine, but across the whole spectrum of research," Kasich said from Columbus.

In addition to airing discussion between sites on how communication will be improved, the conference demonstrated how current capabilities are limited. Video feeds were choppy at times, and video and audio dropped out for a second or two a couple times.

Dr. Samer Narouze, chairman of the Center for Pain

Medicine at Summa Western Reserve Hospital, participated in the conference in Cuyahoga Falls; while Dr. Ali Rezai, professor and chair of Ohio State's Department of Neurological Surgery was at The Ohio State University Wexner Medical Center in Columbus; Dr. Joseph Broderick, Chairman of the University of Cincinnati Medical Center's Department of Neurology, was in Cincinnati; and Dr. George Jaskiw, a specialist in psychiatry and post-traumatic stress disorder at Cleveland Veterans Affairs Hospital, was at Case Western Reserve University in Cleveland.

"It [has been] difficult, currently, to transmit large files and data," Narouze said. "However, now with the new technology with the 100 Gigabit connection, we would be able to transmit and share large data files and ultrasound videos very efficiently."

Videos are shared via the Internet now, Narouze noted, but without a fast connection, they are sometimes slow and choppy and do not give a true picture of movement, which is crucial in a consultation or diagnosis situation.

Under a recently approved agreement with Cisco and Juniper, the state of Ohio is investing approximately \$10 million to harness new technology that will increase Ohio's current broadband infrastructure from its 10 Gigabits per second to 100 Gigabits per second.

Phase one of this project will connect Cleveland, Columbus, Cincinnati, Dayton and Toledo by June, and the second phase will connect Akron, Athens and Youngstown by October.

"Ohio is already a national leader both in advanced medical procedures and its unsurpassed connectivity within the state and to the broader national medical community," Narouze said. "Increasing the speed and capacity of this network will help expand medical training and make Ohio an advanced competitor for federal research grants."

The upgrade, Kasich said, will enable the daily transport of data equivalent to 80 million file cabinets. "Think of it as a super highway," he said. Ohio has long been a leader in its broadband fiber network and speeds, the governor said. The state can deploy data at an 10 Gbps rate, which is on par with the national average, Kasich said.

"Some states are researching higher data speeds," he said. "Other than the state of Indiana, which has just announced a federally funded dedicated 100 Gbps that will connect the University of Indiana to the University of Chicago, no other state has as far reaching of a network at these speeds benefiting many sectors."

This expansion leverages the fiber optic network operated by OARnet, a member of the Ohio Board of Regents Ohio Technology Consortium, according to a news release from the state. The 100 Gbps network will connect Ohio's major metropolitan areas to northern and southern connection points of Internet2, a nationwide advanced networking consortium led by the research and education community, spanning U.S. and international institutions who are leaders in the worlds of research, academia, industry and government.

Dr. Narouze and Dr. Rezai began collaborating while working together at the Cleveland Clinic. This relationship continues, with the advanced OARNet technology network allowing for more efficient long-distance collaboration between the physicians, and their respective institutions, Summa Western Reserve Hospital in Cuyahoga Falls and The Ohio State University College of Medicine in Columbus.

"Ohio's enhanced 100 Gbps broadband capability will greatly facilitate our clinical, research and training programs," Rezai said. "We can remotely evaluate patient clinical status, monitor and optimize their programming/adjustments, review structural and functional brain imaging, and assess intra-operative brain recording and mapping to guide DBS surgical implantation at other institutions."

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