

Implementation and Evaluation of Videoconferencing for Forensic Competency Evaluation

David D. Luxton, PhD, MS,^{1,2} and Jason Niemi³

¹Office of Forensic Mental Health Services, Washington State Department of Social and Health Services, Olympia, Washington.

²Department of Psychiatry & Behavioral Sciences, University of Washington School of Medicine, Seattle, Washington.

³Services and Enterprise Support Administration, Washington State Department of Social and Health Services, Olympia, Washington.

Abstract

Background: The demand for court-ordered pretrial forensic evaluations has increased substantially in the United States and has resulted in long waitlists for services. This has caused concerns about the civil liberties of persons who are waiting for evaluations, especially among defendants with severe mental illness or intellectual disabilities.

Introduction: This article describes the implementation and results of the first program evaluation of the use of videoconferencing (VC) to conduct adult forensic evaluation services in the State of Washington.

Materials and Methods: Four county jails, two state hospitals, two competency restoration residential treatment facilities, and two state offices were connected through secure VC link. Attorneys were allowed to attend sessions by three-way conference. Data were collected during and after each VC session.

Results: Fifty competency evaluations to stand trial interviews were completed during the first year of the program. Psychotic symptoms of defendants did not impair interviews, although some network-related technical problems did occur. The overall results provide initial support for the feasibility and safety of forensic competency evaluation services delivered by VC.

Discussion: VC can improve the efficiency of pretrial competency to stand trial evaluations. The use of the VC capability to provide training to the forensic evaluators, meetings, and supervision is an additional benefit.

Conclusions: The capability to conduct competency to stand trial evaluation interviews through VC has the potential to help meet the growing demand for these services in the State of Washington and beyond.

Keywords: videoconferencing, forensic, competency, evaluation, assessment, telemedicine

Introduction

The demand for court-ordered pretrial forensic evaluations has increased substantially in the United States over the past several decades.¹⁻³ In the state of Washington, for example, there was an 82% increase in orders for competency evaluations between 2001 and 2011,⁴ and by 2017, the number of orders had increased by another 60%.⁵ Unfortunately, the increasing demand for competency evaluation services and limited resources has resulted in long waitlists, causing concerns about the civil liberties of persons who are waiting for evaluations.^{1,2} The issue is especially problematic when defendants with mental illness or intellectual disabilities are required to wait in jails for competency evaluations and subsequent restoration services for extended periods of time. In some instances, defendants with mental illness may be placed in isolation, thus potentially exacerbating their symptoms.²

Court-ordered forensic evaluations are conducted in inpatient facilities, jails, or in community settings. The use of videoconferencing (VC) to conduct some competency evaluation interviews in these settings has the potential to help meet the demand for services while providing additional benefits.⁶⁻⁹ The efficiency of completing evaluations can be improved, especially when defendants are located in underserved areas and when forensic evaluator scheduling and travel time are a barrier. For example, if demand for evaluations temporarily goes up in one location, evaluators in another location could provide the coverage of services through the use of VC. The capability for attorneys to attend competency evaluation interviews by VC from their offices rather than scheduling travel can also increase efficiency and timeliness. Delays in evaluation completion due to scheduling difficulties have been identified as a significant problem in Washington and in other locations.^{4,9}

Luxton and Lexcen⁷ conducted a review of VC use for competency evaluations that focused on legal and practical feasibility. They did not identify any rules or case law directed specifically to VC as a method of evaluation for competence to proceed to adjudication. They noted that many courts have established rules and statutes concerning VC (or telephony) for both civil and criminal proceedings, and that VC is

becoming an increasingly used method for conducting clinical, civil, and criminal matters, thus potentially supporting the acceptance of VC-based competency evaluations. Moreover, there is evidence that forensic evaluation interviews can be reliably conducted with VC,^{6,8,10} and there have not been any indications that the fidelity of competency to stand trial interviews is hindered by the evaluator not being in the same room or other technical characteristics associated with VC.

Given the potential for VC to address the growing demand of forensic competency evaluations, the state of Washington Department of Social and Health Services (DSHS), Office of Forensic Mental Health Services (OFMHS), in collaboration with four county jails, implemented a multisite VC forensic competency evaluation program. This article reports the results of a program evaluation after the first year of operations. The current evaluation did not include a formal economic evaluation (cost savings) and it was not intended to collect research information about the defendants (e.g., clinical diagnosis) or staff involved (e.g., satisfaction). This program evaluation was deemed exempt by the Washington State Institutional Review Board.

Methods

The initial program costs, including all VC equipment and network installation costs, were supported by the 2015–2017 biennium with the State of Washington's Governor's Behavioral Health Innovation Account funding. Ongoing operation and maintenance funding is provided through state Supplemental Budget and agency (OFMHS) budget.

Installation of VC equipment and network connectivity was established at Washington's two state hospitals that serve adult forensic patients (one in the western region of the state, the other in the east), two state competency restoration residential treatment programs (30 and 24 bed facilities), an office shared by forensic evaluators in Seattle, and at the OFMHS headquarters in Lacey, Washington. Four county jails in Washington also participated. These jails were selected for the program because they represent geographically disperse locations, including both urban and rural areas, sites separated by large mountain passes, and a location typically accessed by ferryboat. All sites were interconnected to allow forensic evaluators to interview defendants located at any of the jails and the competency restoration in-patient facilities.

NEEDS AND READINESS ASSESSMENT

Any existing VC capabilities were assessed through a brief survey that was sent to each of the participating jails. Initial network tests were also conducted to evaluate feasibility of existing network connections. The first author also met with

jail administrators and other staff to assess existing protocols, VC room space, and to gain support for the program. Contractual agreements were established between DSHS and the county jails to authorize installation and access to devices in the jail facilities and to establish network communications to DSHS's core video infrastructure network.

LEGAL AND POLICY REQUIREMENTS

The review by Luxton and Lexcen⁷ provided a foundational assessment of potential legal barriers to implementing a VC-based competency evaluation program in Washington (none was identified). The first author also presented plans for the program at meetings with the Administrative Office of the Courts, while also meeting with judges and prosecuting and defense attorneys in several of the participating counties to address any questions about the program's legal or practical viability.

The first author established an agency policy for the state's forensic evaluators that set standards for training, data security and privacy requirements, preassessment review of appropriateness of using VC, safety protocols, and the scheduling and notification requirements with jail staff and attorneys. Requirements for documentation, including specification of the use of VC in evaluation reports to the court, were also established.

A project executive committee, consisting of leadership representatives from the State and the Washington Association of Sheriffs and Police Chiefs, provided budget oversight and change approvals during the course of the program. A project manager, who helped with technical and other coordination duties, also assisted.

STAFF TRAINING AND QUALIFICATIONS

A total of 14 state forensic evaluators (licensed doctoral level psychologists), who serve the participating site regions, volunteered to participate in the program evaluation. The first author developed a VC training seminar and provided training to the evaluators. Training topics included policy review, basic technical setup, troubleshooting procedures, scheduling, initiating and closing VC sessions, privacy protocols, data security, safety protocols, and documentation requirements. The second author led the development of technical training that described procedures for scheduling VC sessions through an online system.

NETWORK INFRASTRUCTURE

DSHS equipment installed at WaTech (State of Washington's consolidated technology services agency and data center) was connected to a DSHS-managed data center core

network. The DSHS data center network is a high speed (1 gigabit +) core network with a managed firewall. Connectivity to the internet, remote DSHS offices, and jail partners was dependent on wide area network (WAN) circuits procured and provisioned by WaTech according to requirements per Washington State law.

Distant site locations utilized dedicated WAN ethernet circuits procured through available area telecommunication companies using State of Washington contracts and procurement procedures. Industry standard quality of service techniques leveraged end-to-end to control fluctuations in available bandwidth across the network transport paths. Dependency on remote site networking service was reduced to the remote site cabling and interconnects necessary for the video endpoints in jails.

VIDEO SOFTWARE AND HARDWARE

Cisco Meeting Server technology was deployed to bridge communication between DSHS and jail facilities, and a web browser-based connectivity solution using open technology standards was deployed to accommodate internet-based participants (e.g., attorneys). Cisco BE7H hardware (Cisco Servers) with Cisco Unified Communications Manager version 11.5 was used for endpoint registration and call routing, and Cisco Video Communication Servers version 8.9.2 was used to enable external communications between “off network” and “on network” users. Cisco Meeting Server version 2.1 was deployed as the video bridge, and Cisco Telepresence Management Suite version 15.3 was used to schedule forensic evaluations. An overnetwork remote control pan-tilt-zoom feature was also enabled.

The endpoint cameras included Cisco Spark Room Kits and Cisco Sx-10s. Custom-made hardened enclosures were used to house the display and video system hardware to secure vulnerable hardware components and possible ligature risks (cabling). Modification to these enclosures and use of external microphones was done in situations where the enclosures contributed to inadequate audio or loss of peripheral vision (wide angle view) when motorizing the cameras. Cisco Jabber for Unified Communications (Windows) version 11.9 was used on Windows PCs and laptops for external users (attorneys).

DATA SECURITY REQUIREMENTS

State of Washington staff conducted a formal security review of the hardware and software to be used before initiating the program. Public key infrastructure certificates issued by Symantec, Digicert, and WaTech were used to establish trusted communications between “on network” and “off network” users. For external partner access, a web browser was used and clients were connected through secured web-based access method using

web-based real-time communications (WebRTC). End-to-end encryption, using the Advanced Encryption Standard, was required throughout.

PROCEDURES

Protocol. A standardized operational protocol was established that requires the forensic evaluator to first schedule the court-ordered evaluation with the jail (or other DSHS facility where the defendant is located) and notify the defendant’s attorney through e-mail. The evaluator then schedules the VC session through the online scheduling system. At jails, staff transport the defendant to a designated VC area for the interview. At competency restoration facilities, treatment staff transport the defendant to a designated VC room. Once the competency evaluation interview is complete, the evaluator notifies the remote staff through phone, and they escort the defendant out of the VC room. The evaluator then completes the session data sheet (described hereunder) and prepares their competency evaluation report to the court.

Safety plan and procedures. Safety planning and procedures were informed by established best practice recommendations and guidelines for telehealth.^{11–14} Jail and treatment staff followed existing procedures used for transport to and from the evaluation rooms and monitoring of defendants from outside of the room during evaluation interviews. Forensic evaluators were required to have contact information (phone number) for jail or treatment staff immediately available to them during interview sessions. All sites were supervised by on-site staff.

Data capture. A session data collection sheet was developed and used by evaluators to gather information after each session. The name of the forensic evaluator, court order number, location of both the evaluator and the defendant, start time of session, and total time of the session were documented. Technical data were also collected, including any problems with establishing the connection, loss of connection, and type of technical problem, if any. Free text was also allowed to describe any of these issues. Procedural information was also collected to include defendant orientation to the procedures, whether any technical issues impaired rapport, whether the session needed to be stopped due to clinical presentation, and whether the safety protocol was initiated. An additional text box allowed capture of any other observations made by evaluators.

Results

Session data are summarized in *Table 1*. A total of 50 VC competency evaluation interviews were scheduled within the evaluation period (February 2018 to February 2019). Forty-

Table 1. Videoconferencing Session Data

	COUNT	% OF TOTAL
Session characteristics		
Evaluator at hospital	44	88.0
Evaluator at other location	6	12.0
Defendant in jail	47	94.0
Defendant at residential treatment facility	3	6.0
Three-way call with attorney	6	12.0
Session completed	41	82.0
Session not started	4	8.0
Session not finished	5	10.0
Session not finished due to defendant symptoms	3	6.0
Session not finished due to defendant feigning audio problems	1	2.0
Session not finished because defendant requested attorney	1	2.0
Session not started because defendant refused to participate	2	5.0
Session not started because attorney refused	1	2.0
Session not started due to technical issues	1	2.0
Technical		
Evaluator problems establishing connection	6	12.0
Attorney problems establishing connection	1	2.0
Technical issues impacted interaction	9	18.0
Evaluator connection lost during session	7	14.0
Evaluator connection problem resolved during session	7	14.0
Evaluator reported audio problems	16	32.0
Defendant characteristics		
Defendant oriented and agreed to participate	41	82.0
Defendant not oriented or refused participation	3	6.0
Defendant's clinical presentation caused evaluation stoppage	4	8.0
Defendant's clinical presentation caused initiation of safety protocol	0	0.0

one interviews were completed by 14 forensic evaluators. The average time of session was 71.80 min (standard deviation = 28.70), which, according to the participating evaluators, is consistent with in-person evaluation interviews. All of the sessions were scheduled within normal day shift hours. The

highest number of VC evaluations were between sites with the greatest geographical distance.

Four sessions were cancelled when defendants declined to participate. There was not any indication from defendants, the jail staff, or forensic evaluators that the refusal had anything to do with the VC medium. There were not any incidents during the evaluation period that required the evaluator to notify jail or treatment staff of safety concerns.

There were several technical issues during several of the sessions. These typically entailed trouble establishing the connection, and there were three sessions cancelled due to technical problems associated with network issues. Another technical issue included audio delay (typically less than ~ 2 s). In several cases, the evaluators noted that the audio delay made it difficult for them to understand the defendant, but did not prevent them from completing the interview. Adjustments to bandwidth or microphone placement resolved these issues.

There were six sessions that defense attorneys opted to attend through three-way VC. Attorney participation generally resembled that of typical in-person sessions. In one session, the attorney experienced initial difficulty with establishing the connection. In one other session, the attorney's connection was not established, resulting in the use of the telephone to complete the interview. Technical review of these instances suggested that the problems were with the attorney's internet connections.

In three instances, evaluators noted that defendants exhibited delusional beliefs that likely had something to do with the use of technology. For example, one of the defendants referred to the remote evaluator as "digital automata." In another session, a defendant initially refused to participate because she "could not smell the evaluator though the video." In all instances, the evaluators successfully completed their evaluation interviews.

Defendants appeared to be cooperative and engaged in the interview process during all of the completed sessions. There were a total of nine cases reported by evaluators whereby VC audio delay or volume may have impaired communication with the defendants, although the sessions were completed successfully. Although this program evaluation did not entail measurement of evaluator or defendant satisfaction with the VC medium, the first author did solicit verbal feedback from evaluators. All but one of the evaluators reported satisfaction with the procedures and said that they would continue to use the VC option. One evaluator experienced technical difficulties with the system remote control keypad and refused to use the system. Jail staff who provided feedback indicated satisfaction with the procedures. All of the court-ordered evaluation reports conducted over VC were accepted by their respective courts.

Discussion

Forensic evaluations conducted with VC technology have the potential to help improve the efficiency of forensic competency evaluation services and ultimately reduce the multiple pressures of overstrained legal and mental health care systems. The present program evaluation demonstrated the feasibility of the VC technology and procedures, including three-way conferences with attorneys, to deliver efficient forensic evaluation services. The present project is also an example of a strong collaborative effort between multiple agencies, toward a mutually beneficial goal, that is in the best interest of persons with mental illness in jail.

Several cases involved interviews with persons with active psychotic symptoms that included delusions and possibly hallucinations associated with technology. In these cases, the evaluators reported that it was never evident to them that the VC procedures were inappropriate. There is scant evidence reported in the telehealth literature that patients with psychosis have difficulty with VC or experience any exacerbation of symptoms, rather, there is some evidence that the distance afforded can be a positive factor.¹⁵ When conducting forensic competency evaluations, evaluators assess a defendant's psychotic symptoms with regard to their effect on the individual's competency to stand trial. Thus, a defendant's reaction to the VC condition can provide a source of additional information about the defendant's mental state, while not impeding the interview process. There were several cases during the present evaluation, however, where forensic evaluators noted that the audio delay made conversation with the defendant, who showed signs of disorganized thought, more difficult. This required some extra effort on the part of the evaluators, such as repeating questions.

The present VC implementation is not without limitations and opportunities to improve procedures. We experienced longer than expected ramp-up and lower than anticipated use at some of the locations. Part of this was due to the delays we experienced with equipment and network infrastructure setup. Balancing state IT security requirements while maintaining usability and functionality with county jail data network requirements also proved challenging. Inflexible and strictly enforced state security requirements that were unfamiliar with the needed VC infrastructure resulted in increased time to implementation, cost, and IT support needs.

Existing network transport pathways through existing jail networks and service providers proved to be technically possible but complex and inconsistent in quality and reliability. By measuring industry standard network metrics such as packet loss, latency, and jitter, we were able to determine

suitability of network paths for interactive voice and video. For the present implementation, all calls between the jails and DSHS locations were facilitated through a video bridge that enforced a consistent call speed between all participants. In our scenario, an agreeable balance between bandwidth and image quality was 936 kilobits per second. Future solutions would benefit from a strong business and technical agreements that address performance and manageability.

In a few instances, defendant attorneys did not approve VC-based evaluations and requested that they be conducted in-person. The reason given for this was concern that nuances of their client's mental illness would be missed with VC assessments. To address this concern, the first author developed an information flyer that is presently being sent to attorneys when a VC evaluation is offered.

The VC implementation for the present program has also provided some additional benefits beyond completion of competency evaluations. The VC equipment is also used to provide training to the forensic evaluators, and it is also available for team meetings and supervision. The technology can also be used to assess and triage cases that are more suitable for other types of contact, such as local administration of standardized clinical measures (e.g., intelligence testing) or inpatient observation for complex cases.⁷

Conclusions

The results of this program evaluation provide important information about the viability of VC for adjudicative competence evaluations and the potential barriers to implementing new VC programs for this purpose. As noted by Luxton and Lexcen,⁷ the benefits and limitations of VC should be carefully weighed when determining whether VC is appropriate to a given circumstance. VC-based evaluations make the most sense when they improve the efficiency of services while maintaining the same standards of quality of traditional evaluations. We plan to continue collection of operational data, including impact on evaluation waitlists, to further inform decisions regarding expansion of VC in the state of Washington. We hope that the current information learned from this program is helpful to other agencies and organizations nation-wide who are considering VC-based forensic evaluation capabilities.

Acknowledgments

We wish to acknowledge the contributions of Services and Enterprise Support Administration staff, Lorraine Vargo, Bethany Roberts, Tom Akehurst, Robert Early, Eric Washington, Jeff Goeritz, Faisal Farah, and Ricky McElwain; Office of

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Forensic Mental Health Services staff, Thomas Kinlen, Simone Viljoen, Roman Lokmotov, Merrill Berger, Brooke England, Jonathan Ryan, Deanna Frantz, Marilyn Ronnie, Eden Beesley, and Tom LeCompte; and Behavioral Health Administration IT staff, Sara Tripp, Valerie Pollet, Sam Opfer, and Aaron Smith, as well as Chief Jose Briones at Island County Jail, Chief Corrections Deputy Travis Davis at Grays Harbor County, Chief Jeremy Welch and the Technology Services staff at Yakima County, Captain Kevin Young and Stan Bradshaw at Snohomish County Jail, and Ned Newlin of the Washington Association of Sheriffs and Police Chiefs.

Disclosure Statement

No competing financial interests exist.

Funding Information

Funding for the program evaluation was partially supported through state Supplemental Budget and the Office of Forensic Mental Health Services budget.

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Address correspondence to:

David D. Luxton, PhD, MS

Office of Forensic Mental Health Services

Washington State Department of Social and Health Services

P.O. Box 45330

Olympia, WA 98504

E-mail: ddluxton@uw.edu

Received: June 17, 2019

Revised: July 19, 2019

Accepted: July 25, 2019

Online Publication Date: October 15, 2019