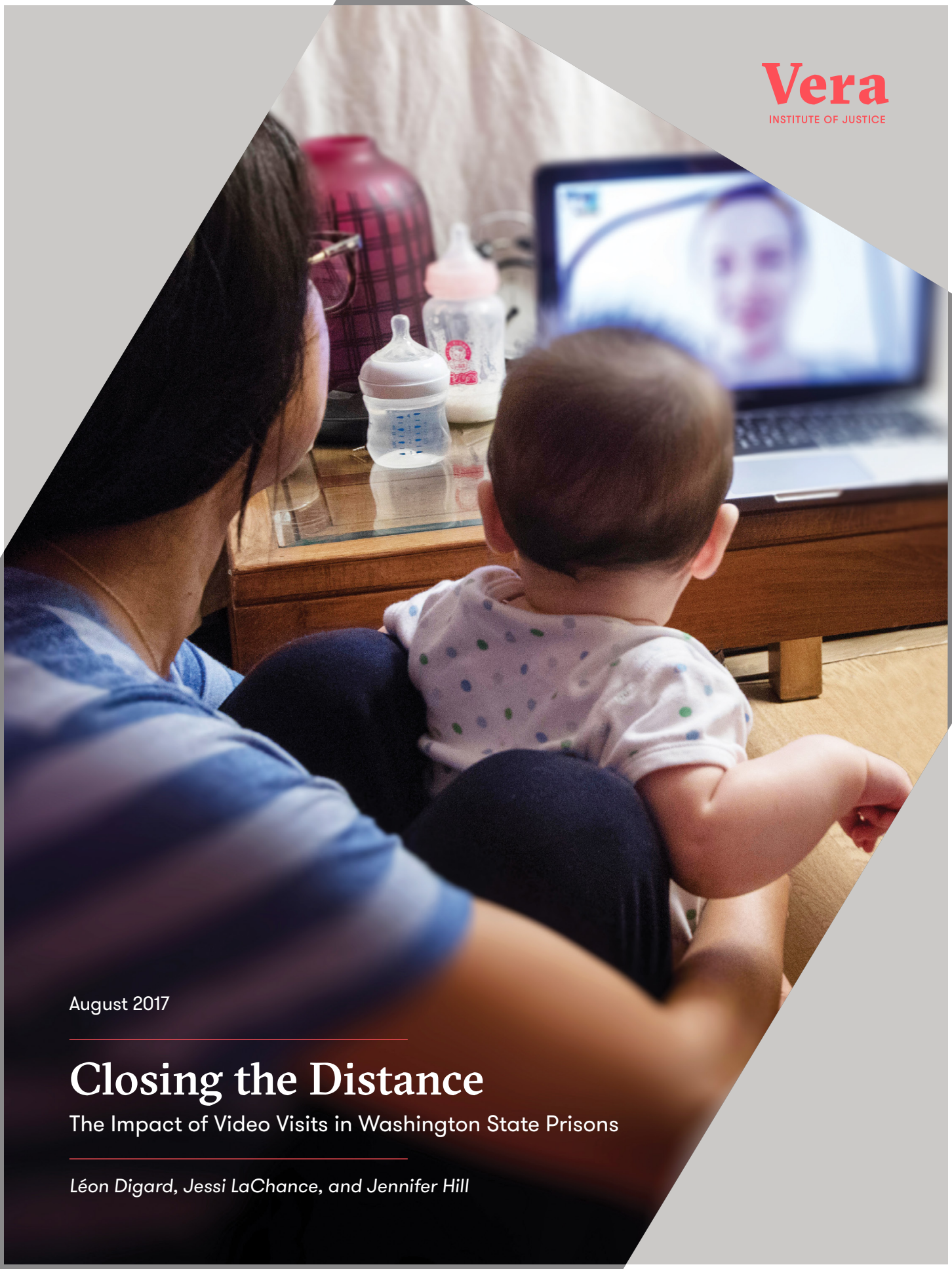

Vera
INSTITUTE OF JUSTICE

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Closing the Distance

The Impact of Video Visits in Washington State Prisons

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From the Director

Research has shown that continued connection to family and friends is a critical factor in incarcerated people's successful post-prison outcomes. Because many prisons around the country are in remote locations, far from the communities where the majority of incarcerated people live, in-person visits present often-insurmountable logistical and financial challenges. For corrections officials looking to keep those in prison in touch with those in the community, video visiting offers a new route. Given its ability to bridge physical separation, this technology lends itself to addressing the difficulties incarcerated people and their loved ones in the community face to keep in touch.

In 2016, the Vera Institute of Justice (Vera) published a national study of state corrections systems' adoption of video telephony as a way to visit incarcerated people. The study found that many state prison systems were weary of adopting video visiting, given security concerns and implementation costs. One early adopter of the technology was the Washington State Department of Corrections, which introduced video visiting using computers in its prisons in 2014.

The current study examines the impact of video visiting in Washington on incarcerated people's in-prison behavior and analyzes their experience of the service. The principle finding was that using the service had a positive impact on the number of in-person visits the video visit users received. In at least one significant sense, the findings follow what we know about the digital divide: Younger people tended to adopt the new technology more than older people. And video visit users also had the most in-person visits both before and after introduction of the service, suggesting that those with strong social bonds tend to sustain them in as many ways as possible. Vera's researchers found no significant correlation between video visiting and people's in-prison behavior, as measured by the number of infractions they committed during the period under study.

Overall, the analysis drew a sobering big picture: Nearly half of the people in Washington's prisons do not have visitors of any kind. And those who do don't have many. One factor was constant across sub-groups: The distance from home had a negative effect on visiting. Travel is expensive and time-consuming; video calls, while cheaper, cost more than a lot of people can spend and are rife with technical glitches. Those who used the service despite its costs and limitations told poignant stories of its benefits: the opportunity for parents and children to bond; the possibility for people in prison to show their families and friends that they are doing well; the chance to talk in a setting less stressful than a prison.

Given the importance of sustained human ties for people reentering the community from prison, it behooves corrections officials and policymakers to devote ongoing attention to promoting successful family and community ties while reducing the factors that strain these vital connections.

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Introduction

Of the many difficulties incarcerated people face, losing contact with loved ones may be among the most damaging. Research has shown that maintaining community ties can improve their health and well-being, decrease their sense of isolation, reduce symptoms of anxiety and stress, and improve their feelings of control and involvement in family life.[1] Furthermore, research suggests that receiving any visit at all during incarceration reduces the risk of someone committing a new offense or violating conditions of parole when they are released.[2] Thus, visits with loved ones form a lifeline to the outside world for incarcerated people and help pave the way back into society. As the number of visits a person receives increases, so do their chances of success in the community.[3]

One of the most significant barriers to prison visits may be the long distances visitors generally have to travel to the facilities where their loved ones are incarcerated.

Despite the value of in-person visits, people in prison receive few. A survey conducted in 2003 and 2004 by the federal Bureau of Justice Statistics (BJS) showed that in any given month, nearly 70 percent of incarcerated people in state prisons had no visitors.[4] There are many reasons why loved ones do not or cannot visit incarcerated people, including the financial strain (such as the cost of travel, missed workdays, and childcare); rules and regulations governing visits (such as ID requirements, limited visiting hours, and background checks); and the anxiety-producing experience of enduring metal detectors and personal searches.[5] One of the most significant barriers to prison visits may be the long distances visitors generally have to travel to the facilities where their loved ones are incarcerated. According to the same survey by BJS, approximately 63 percent of state prison inmates were held over 100 miles from their residence at arrest.[6]

More recently, departments of corrections have been turning to computer-based video technology to try to ameliorate the burden of those distances and create opportunities for families to stay in touch with incarcerated loved ones. However, opinions about the value of video visiting to date are mixed. Some corrections professionals and advocates for incarcerated people have expressed concern that the technology may replace in-person visits—an outcome that could have negative impacts on both incarcerated people and their loved ones in the community.[7] In many local jail systems, those fears have been realized: they have eliminated in-person visits in favor of on-site video links.[8]

In 2016, the Vera Institute of Justice (Vera) reported on the availability of video visitation in state prisons, and the process and cost of implementing the system by one recent adopter: the Washington Department of Corrections (WADOC).[9] Vera's research showed that, at the time of implementation in 2014, Washington was one of 15 state corrections agencies deploying this technology. WADOC reported that it did not intend video visits to replace in-person visits, and hoped that, by enabling more sustained contact between incarcerated people and their loved ones, the introduction of video visits might even increase in-person visit rates. Video calls to people incarcerated in Washington State prisons are made by pre-approved visitors using a home computer or public terminals set up in the community. (At the time of the study, video calls were not available via smartphones or tablets.)

A private vendor, JPay, provides the service. Washington's decision to provide video visits to increase contact opportunities for incarcerated people seemed prudent in its attempt to address the needs of a geographically dispersed population: 50 percent of respondents to a survey Vera conducted of people incarcerated in Washington State prisons in 2014 were in facilities at least 129 miles from their home communities.[10]

Since the publication of that survey's findings, Vera's researchers have been studying the use of video visits in Washington State prisons to understand whether it is successfully providing a means for incarcerated people to contact loved ones more regularly, and whether its use has affected the number of in-person visits that they receive. Below, Vera presents the findings of this recent study.

First, the study sought to assess who received video visits and how frequently. Next, researchers assessed whether participating in video visits affected in-person visit rates, and whether it affected incarcerated people's in-prison behavior. Interviews with incarcerated people about the experience and perceived benefits and challenges of the video visit

system supplemented the data analyses. Last, to contextualize the findings of the evaluation and to identify the unmet visitation needs of incarcerated people, the study looked at the prevalence and frequency of in-person visits across the system. While previous studies have noted that distance from home may inhibit in-person visits, Vera sought to identify the specific nature of the relationship between being housed far from home and incarcerated people's ability to maintain contact with their loved ones.[11]

Methodology

Vera set out to answer the following research questions using the methods and sources outlined below. (A detailed description of the study's methodology can be found in Appendix A.)

Did video visit use affect in-person visit rates?

To understand who received video visits in Washington State prisons, and how often they received them, Vera researchers analyzed administrative data from both WADOC and JPay. WADOC introduced video visits in its prisons gradually throughout 2013. Vera researchers identified the date on which video visitation was first made available to each incarcerated person, from a full dataset that included people incarcerated for any length of time between January 1, 2012, and November 30, 2015. To estimate the impact of using the video visit service, Vera researchers compared pre- and post-video visit implementation outcomes of service users and nonusers. For the analysis, the researchers chose all 9,217 people who were in WADOC custody for at least one year prior to and at least one year following service implementation. From this sample, the researchers identified 1,058 users of the video visit service. Under the assumption that people who rarely used the service were unlikely to be affected by it, the researchers identified a group of 459 very low users—people averaging fewer than 1.5 video visits per year during the study period—and removed them from the analysis. They also identified a group of high users, comprising those who were in the 90th percentile of service use, each receiving an average of nine or

more video visits per year. This resulted in a total sample of 8,758 people, divided into three groups: 8,159 nonusers; 488 users; and 111 high users.

The researchers compared nonusers, users, and high users of the service to identify demographic differences between the groups; Vera then used two statistical methods to estimate the impact of participating in video visits on subsequent in-person visits, while controlling for those differences—Inverse Probability of Treatment Weighting, with Difference in Differences tests (IPTW/DID) and Bayesian Additive Regression Trees (BART). Using two methods allows the researchers to have greater confidence in the findings when the results of the analyses agree. The first method, IPTW/DID, reweighted the control group so that it looked like the treatment group, and then compared changes in in-person visits over time between the groups. The second method, BART, capitalizes on a machine-learning-based approach to adjust for the sample characteristics. The BART analysis allowed the researchers to predict, for each person who had video visits, how many in-person visits they would have received if they had not participated in the program. See Appendix A for a more detailed description of these methods and the variables controlled for.

What were the strengths and weaknesses of the video visit experience?

To better understand how users of the video visit system experienced the service, Vera conducted interviews with 20 incarcerated people who had used the service within the previous month. The participants (10 men and 10 women) were asked open-ended questions about their satisfaction with the service, why they chose video visits, and their perceptions of the benefits and challenges associated with using the system.

Did video visits affect users' in-prison behavior?

Using the same sample and methods used to determine the impact of video visits on service-users' in-person visit rates, Vera researchers conducted analyses to determine whether using the service affected in-prison behavior. Researchers compared the groups to identify any significant changes between the periods of time before and after video

visits were introduced in the overall number of infractions of prison rules service users committed, the number of serious infractions (as defined by WADOC policy), or the number of general infractions they committed. To supplement these analyses, they drew upon the experiences of incarcerated people, as reflected in the 20 interviews described above.

How frequently did people have in-person visits?

To understand how often people in Washington State prisons received in-person visits and determine the extent to which long distances from home created a barrier to such visits, Vera analyzed administrative data from WADOC about all people who were incarcerated during a one-year period (11,524 people incarcerated from November 30, 2014 to November 30, 2015). The data included demographic information, home ZIP Codes, and information on in-person visits. Vera analyzed the data to describe demographic variation in visit rates and conducted statistical analyses to identify the relationship between being incarcerated far from home and in-person visit rates.

Video visitation in Washington State prisons

People incarcerated in Washington State prisons can make video visits in addition to their standard phone-call allowance, which varies by their security level. A video visit takes place at a kiosk installed in a housing-unit day room. Depending on the prison's security level, the kiosks may look like computer monitors, with a webcam and a headset for the person to speak into and listen to his or her visitor. The visit, which an approved visitor must schedule in advance, lasts 30 minutes at a cost to the person who is incarcerated of $12.95. For an additional $12.95, participants can extend the visit to an hour at the time of the call if no one else has reserved the kiosk for that time slot. While the hours during which people can access kiosks vary by prison facility, some visits take place as late as 10 p.m., substantially expanding the time for families to connect beyond in-person visiting hours. The visitor participates in the visit using any computer with Internet access and a webcam. The vendor records all video visits, which the WADOC staff can review following completion of the visit. Corrections staff can also opt to monitor the visits in real time, and can end a call immediately if they witness prohibited behaviors or interactions, such as gang signs or nudity.

The first video visitation pilot began in February 2013 at the Washington Corrections Center for Women. By June 2014, all 12 of the state's adult prison facilities offered video visitation. JPay, a private vendor that also provides prison services such as e-mail, music, and commissary accounts, operates the video visitation program. Securus Technologies, a large criminal-justice technology and prison telecommunications company, acquired JPay in July 2015.

The use of video visits and their impact on in-person visiting rates

Video visit rates

Overall use rates were low. In Vera's sample, 11.5 percent of incarcerated people (1,058) participated in at least one video visit. On average, people who used video visits had 3.6 video calls per year. However, a substantial proportion of this group could be considered very low users; the researchers averaged each person's video visits over the time the option was available to them and found that 43 percent (459) of people who tried the service made fewer than 1.5 video visits per year. Of Vera's total sample (N=9,217), only 6.5 percent (599) could therefore be considered regular users of the service. Possible reasons for the low usage rate are described below. The 459 very-low users were dropped from the impact analysis.

User demographics

The researchers observed some notable differences between nonusers, users, and high users.[12]

Table 1

Demographics

	Nonusers (n=8,159)	Users (n=488)	High users (n=111)
Average age when admitted	34 years	28 years	27 years
Black	19%	39%	43%
Member of a security threat group (a gang)	29%	54%	56%

As Table 1 shows, users of the video visit service tended to be slightly younger than nonusers when they were admitted to custody for their current sentence (though all groups had, on average, been in custody for similar lengths of time—seven years—at the time of the study). It is possible that younger people are more familiar with the technology and have greater experience and ease connecting to people through video. It is also possible that people incarcerated at a younger age are leaving behind stronger or larger social networks. Users and very high users of the system were slightly less likely to have used mental health services (14 percent and 12 percent, versus 28 percent of nonusers), were less likely to be white and more likely to be black, and were more likely to have been identified as belonging to a security threat group (a gang).

There were also clear differences in the sample members' incarceration experiences in the year prior to the introduction of video visits. (See Table 2.) Users of the service were moved between facilities more often and held, on average, further from home than nonusers. It is noteworthy that, despite these challenges, during the year prior to implementation, service users already received more in-person visits from more visitors. In the year before implementation of video visits, nonusers had an average of seven in-person visits per year, while moderate users received over double this rate of visits, averaging 15.6, and high users had an average of 19 visits. From the data available, the researchers were unable to determine the cause of these differences. It is possible that financial capacity accounted for the relationship between in-person visit rates and subsequent video visit use—that is, family members who could afford the cost of the video service were also better able to handle the expense of traveling to their loved one's facility. The higher rate of in-person visits may also

Table 2

Pre-exposure variables

	Nonusers (n=8,159)	Users (n=488)	High users (n=111)
Average number of facility moves	5.3	6.6	7.8
Weighted average distance from home (miles)	128.3	149.4	160.6
Average number of in-person visits per year	7.0	15.6	19.3
Average number of in-person visitors per year	12.4	26.8	31.6

Note: "Average number of visits" refers to the number of visit "events" that a person experienced, regardless of how many visitors were present at the same time. A "person visit" means that the same person is counted each time he or she visits during the year.

Table 3

Pre-exposure conduct

	Nonusers (n=8,159)	Users (n=488)	High users (n=111)
Average number of general infractions (all)	1.9	2.1	2.0
Average number of serious infractions	0.8	0.8	0.8
Average number of segregation infractions	0.4	0.4	0.5

indicate that users of the video service had stronger relationships with people in the community before video visits were introduced. (See "The effect of video visits on in-person visiting rates" below for more information.)

There were few meaningful differences in the average number of infractions committed by people during the year prior to service implementation. The average number of infractions, serious infractions, and infractions that resulted in a segregation sanction (commonly known as "solitary confinement") were low for all subgroups (see Table 3, above).

The effect of video visits on in-person visiting rates

Vera researchers conducted two analyses to determine whether engaging in video visits affected the number of in-person visits incarcerated people received. They used two analytic techniques to control for the differences between users and nonusers and to allow for an apples-to-apples comparison. In both analyses, users and high users of the video service saw a significant increase in the number of in-person visits they received following implementation of the service, as compared to nonusers. The IPTW/DID analyses show that use of the service resulted in a 40 percent increase in the number of in-person visits, while very high use resulted in a 49 percent increase. The results of the BART analysis were similar (finding a 48 percent increase for users and a 49 percent increase for very high users). For both users and high users, these findings held true regardless of how far from home people were incarcerated. (See Appendix B for the results of the IPTW/DID and BART.)

The video visit experience

To help understand the results of the data analyses, Vera interviewed 20 people (10 men and 10 women) incarcerated in Washington State prisons who had used the video service within the previous month. The information the interviewees provided illuminates how the system benefited users and what mechanisms might explain the increase in in-person visits Vera identified. The interviewees stressed the system's technical challenges and costs, which may account, at least in part, for the low use rates.[13]

Seeing and connecting

While Vera's data analysis suggested that users of the video visit service were already better connected to the community than nonusers, there was still a high level of need among this group for more contact with loved ones. Video visits helped ameliorate this need. Interviewees spoke expansively of the video service's benefits, and 18 of the 20 participants reported that they would continue to use it. Video visits allowed users to connect with people who would otherwise struggle to make an in-person visit because of the distance. Participants noted long travel times, gas and hotel expenses, loss of earnings, and child-care requirements as significant barriers to in-person contact. Loved ones with limited mobility or in poor health faced additional challenges to in-person visits. Indeed, one participant who was incarcerated far from home reported that, prior to his first video visit, he had not had any form of visit for 19 years.

While most interviewees preferred in-person visits to video calls, they still found the opportunity for greater contact with loved ones to be highly meaningful. Video visits allowed incarcerated parents to participate in and connect to their children's lives. One mother said that her young daughter had not recognized her at the start of in-person visits for the first few years of her incarceration. The more consistent visual contact made possible through video visits helped to relieve the estrangement: "Now she does [recognize me] and writes more and talks on the phone more." Incarcerated parents felt that opportunities to stay actively involved in their children's lives were mutually beneficial. As another woman said, "This would be harder for *both* of us without [video visits]. I get to see my little monsters

Video visits provided loved ones with visual reassurance that they were physically and emotionally well—something phone calls and letters could not do.

grow." Another participant reported that, through video visits, he could counsel and support his son, who was struggling with drug addiction.

Interviewees said that video visits were a more comfortable mode of communication for young children than phone calls. A father explained that his young daughter, who struggled to talk over the phone, had started asking questions about his prison sentence: "It's easier to answer her questions face-to-face—to look at her when I'm talking to her." Via video, he said, his daughter played while they talked and showed her father her room, toys, and drawings: "I get to see her grow." Similarly, participants noted that video visits provided loved ones with visual reassurance that they were physically and emotionally well—something phone calls and letters could not do.

Video visits built a foundation for in-person visits

Interviewees described video visits as providing a space to reconnect with loved ones that was free from many of the pressures and stresses of in-person visiting. They described in-person visits as highly important, but also as an emotionally difficult experience—especially for young children, who had to endure long travel times and who may have been overwhelmed by the noise and stress of the prison environment. The relative ease of video visits removed some of these pressures. A male interviewee said that he found in-person visits with his family to be "very emotional because they're all nice people," while he considered himself to be "the bad apple." He went on to say, "I like that video visits aren't like that—there's not enough time to go into that. It's all laughs and giggles." Video visits provided a less pressured medium through which people could relax in each other's virtual company. As one interviewee explained, "Having the opportunity to video visit can make the first in-person visit less awkward, particularly for women like me who've been separated

from their kids for a long time." Video visits created a safe space for people to strengthen their bonds before moving on to in-person visits.

Additionally, for loved ones in the community who were uncertain about visiting an incarcerated person, video visits may have been a medium for the incarcerated person to demonstrate *why* they should visit. One man said that through participation in cognitive-behavioral group therapy while in custody, he had developed as a person since he last saw his family. Video visits allowed him to communicate this to them. "Contact is important," he concluded. "I try to let people know that I've changed."

Users faced significant technical challenges

Through its 2014 survey of people incarcerated in Washington State's prisons, Vera identified high levels of dissatisfaction with both the cost and quality of the video visiting system.[14] While the interviews described here happened a year after the survey, most participants reported frequent problems with their video visits' picture and sound quality. Twelve of the 20 interviewees said they had experienced occasional or frequent problems with the picture quality: Sometimes the image would flash, sometimes it would freeze, and sometimes there would be no picture at all. Seventeen participants reported poor audio quality, with voice delays making it difficult to have a natural conversation. Interviewees said that if they lost the connection entirely, they could usually get credit toward another visit.

These technical problems were a source of great frustration and upset for the interviewed incarcerated people and their families, potentially undermining the positive aspects of the service. As one interviewee recounted, "When it didn't work, my husband told me that my son was sitting outside in the yard, totally crushed." Another explained that, "When I talk to my younger kids, sometimes they think I'm mad because I'm not saying anything, but it's because I can't hear."

The interviewees expressed dissatisfaction with the service cost, especially given the problems with its quality. As one person said, "For what we're actually getting, it's ridiculous." Nine of the 20 interviewees said that they would use the service more if it were more affordable. Nevertheless, another person concluded, "It seems pretty expensive, but it's all we've got."

In-prison behavior and video visits

While research has demonstrated the positive impact of in-person visits on post-release recidivism rates, fewer studies have questioned whether in-person visits similarly influence incarcerated people's behavior while in custody. One recent study of people incarcerated in Florida state prisons showed mixed results, including short-lived and quickly reversed decreases in infraction rates associated with the anticipation of a visit.[15]

Using the same methodology described above to identify the impact of video-visit use on in-person visit rates, Vera researchers sought to determine whether video visits affected the number of infractions people in the sample committed. The researchers conducted BART and IPTW/DID analyses to determine whether regular users of the service exhibited a change in the number of infractions they committed, the number of serious infractions they committed (as defined by WADOC policy), or the number of general, non-serious infractions during the year following the video service's implementation. Neither analysis found any significant impact of video visiting on any of the outcomes. It should be noted, however, that infraction rates were already very low for all groups prior to implementation.

Infraction rates are a narrow and limited metric with which to assess people's conduct; they do not capture increases in positive behavior. However, the interviews with incarcerated people suggest that video visits may have some positive impacts. One interviewee explained, "[Video visiting] makes you reconnect with society... Even though it's only a video, it makes you remember there's something outside of here." Other interviewees suggested that these glimpses into life outside of the prison, into the daily lives and homes of their loved ones, motivated them to improve their lives; as one participant stated, video visiting "supports my positive change, it reminds me *why* I'm trying to be a better person... even though I've got life without parole, there is still a chance for me."

Yet some participants cautioned that frustrations with video service glitches could worsen people's behavior. As one interviewee said, "When you're incarcerated and you expect something and don't get it, it can be really bad. If you let it get to you, you can end up back in [solitary confinement]."

Additional research can help to clarify the positive or negative effects of both video and in-person visits on video service users' in-prison behavior. Vera's analysis shows, as the findings below reveal, that during the study period both video visit and in-person visit rates were low throughout Washington's prison system. Furthermore, visit rates varied by the demographic characteristics of the people who were incarcerated. Because staying connected with supportive people in the community fosters good post-prison outcomes, the disparate visit rates for various groups in the Washington prison population merit further scrutiny.

In-person visits in Washington State prisons

Vera's analysis established that participating in video visits increased the number of in-person visits that incarcerated people received, but also showed that only a small proportion of the prison population used the service. To give context to these findings, Vera analyzed the statewide prevalence and frequency of in-person visits in the year following the implementation of the video visit service.

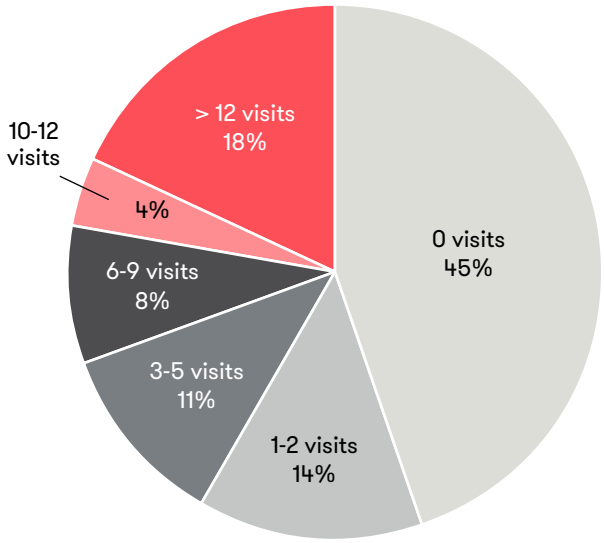
The analysis of WADOC administrative data revealed that nearly half (45 percent) of incarcerated people did not receive in-person visits during the year ending November 2015. As described below, visit rates varied: Women and people under 45 were more likely to receive visits than men and older incarcerated people. For all groups, however, the further people were held from their homes, the fewer visits they received.[16]

In-person visits, from few to none

Nearly 45 percent of people incarcerated in Washington State's prisons had no visits during the year-long study period. Of those who had in-person visits, the average number per person was between eight and nine. As Figure 1 shows, over 13 percent of the sample received one to two in-person visits, 11 percent received three to five, and 18 percent received more than 12 in-person visits during this one-year period.

Figure 1

Number of in-person visits received between November 30, 2014 and November 30, 2015



n = 11,524

Demographic disparities in visit rates

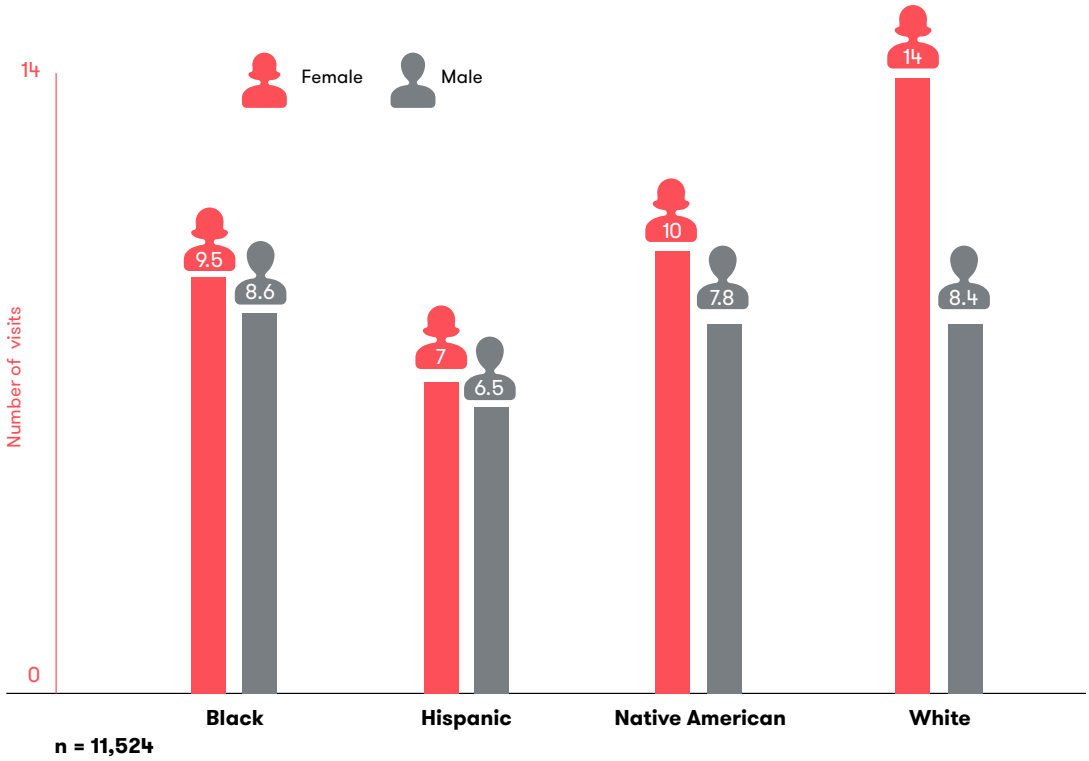
Vera analyzed the demographics of people who received in-person visits during the study period. The findings below show that many of the people who were least likely to receive video visits—such as older people or those with mental health needs—were also less likely to receive in-person visits, meaning the service was not benefiting those who needed it the most.

Women had more in-person visits than men

While 54 percent of men in the sample received visits during the year, 74 percent of the women had visits. Consistent with national trends, women received more visits on average than men—12.5 per year compared to 8.3.[17] Vera's analysis found that women received more visits than men independent of the distance they were held from their homes. However, Washington State's two women's prisons are located near Seattle and Tacoma—the state's largest and third-largest cities, respectively—making them more accessible than the more remote male facilities. Factors such as the availability of public transport or direct routes to the facilities may correlate with the number of visits people receive, in addition to physical proximity.

Figure 2

Average number of in-person visits by gender and race



n = 11,524

There were racial disparities in visiting rates among women

White women, on average, received about 14 in-person visits throughout the year, while black women received 9.5, and Hispanic women received approximately seven in-person visits. This disproportionate pattern was less pronounced for men.

Younger people received more in-person visits

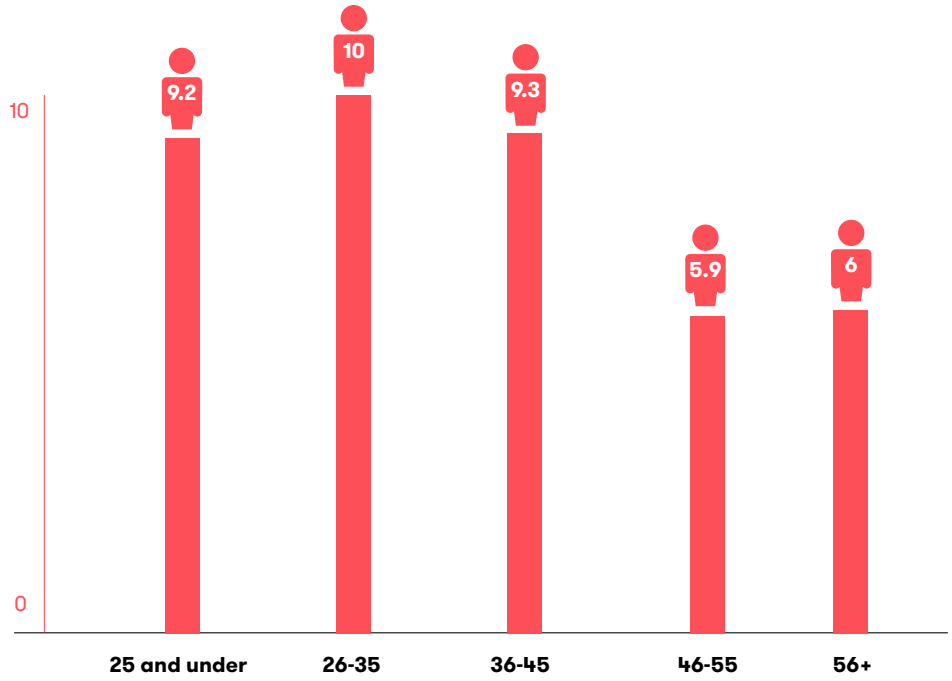
The average number of in-person visits decreased among people over the age of 45.[18] People in age groups under 45 received an average of between nine and 10 in-person visits; however, those over 45 received six in-person visits on average. (See Figure 3.)

People with mental health disorders received fewer visits

On average, people living with mental health disorders received six in-person visits during the year, compared to members of the general prison population who did not have a diagnosed disorder, who received between nine and 10 visits on average.[19]

Figure 3

Average number of in-person visits by age



n = 11,524

Visit rates were higher for people who had been incarcerated for long sentences

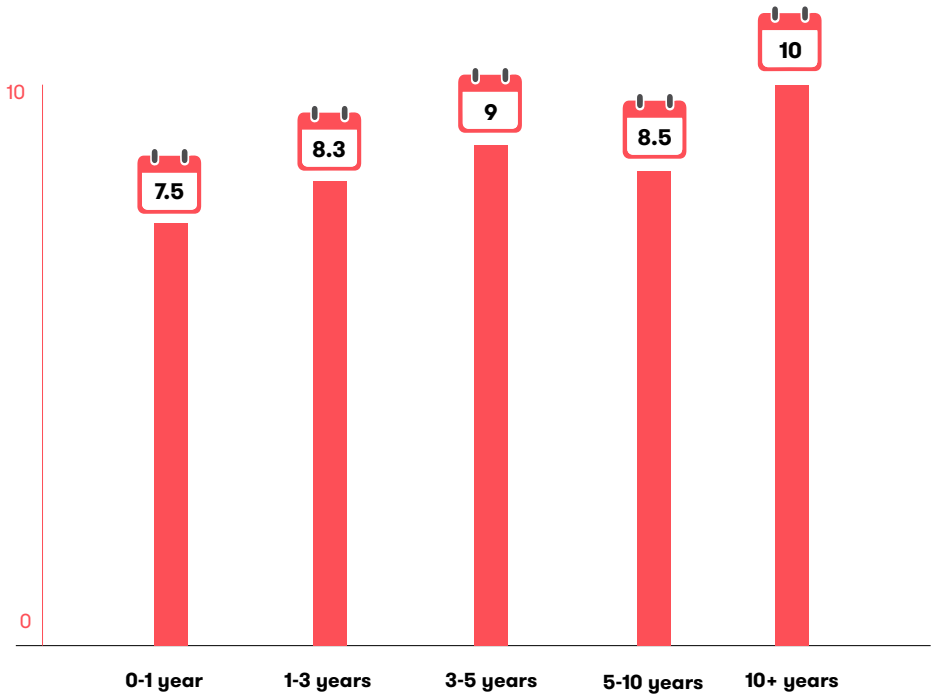
Researchers found a slight upward trend in the number of visits that people received in relation to the length of time that they had been incarcerated. Those in the first year of their sentence received an average of eight in-person visits, while those who had already served 10 or more years received an average of 10 in-person visits a year. (See Figure 4.)

People received fewer visits the further they were incarcerated from their homes

Vera found that, in Washington State, the mean distance from home for incarcerated people was nearly 130 miles (median = 113 miles)—about a two-hour car ride. Because Vera researchers calculated distance using straight-line measurements (or "as the crow flies"), actual distances by road and the associated travel times are greater. Further, for people without access to a car who rely on public transportation, with the constraints of timetables and fixed routes, traveling this distance would likely take even longer.

Figure 4

Average number of in-person visits by length of incarcertion



n = 11,524

Vera researchers created a model that would test the significance of the relationship between in-person visits and individual-level characteristics, including distance from home, gender, race, age, mental health status, and length of incarceration. Each of these variables was found to be significantly correlated to the number of visits people received ($p<0.001$). The model is presented in Appendix C.

The model shows that the number of in-person visits people received decreased by about 1 percent for every additional mile in distance from home they were incarcerated. For men, all else being equal, the predicted average number of visits for someone held 58 miles from home is eight per year; for men held 184 miles from home, this number drops to three, and at 327 miles from home the model predicts 1.5 visits per year.

Gender differences in visiting rates remained even when controlling for distance from home, with women being more likely than men to receive visits. Consistent with the descriptive statistics presented above, the model also found that, for every year increase in a person's age, the rate of in-person visits decreases by about 2 percent. However, there was a 2 percent increase in the number of visits received for every year a person had been incarcerated.

Conclusion

Staying connected to loved ones outside of prison is important to the well-being and success of incarcerated people in leading safe and crime-free lives after release. Video visits provide another avenue for incarcerated people to reconnect with family and friends. Vera's analysis shows that use of the service may strengthen people's relationships to those on the outside, as demonstrated by a subsequent increase in the number of in-person visits they received. However, only a small portion of incarcerated people used the service during the period under study, and even those who did reported that the service's cost limited their use. Although the $12.95 fee is less than the cost of a long-distance trip, the calls are short and the sound and video quality are often poor. Furthermore, $12.95 is a significant sum for incarcerated people, who may rely on friends and family to send them money to supplement the small amounts they can earn in prison-based jobs.

In-person visit rates were low across the state, and the small proportion of incarcerated people who used video visits on a regular basis indicated that the service alone cannot be relied on to increase contact with their loved ones. Further, Vera's analysis of in-person visits shows that some of the very groups within the prison population who may be most in need of additional support from family and friends, such as older people and those with mental illness, received both the fewest in-person visits and the fewest video visits. It does not appear that video visits themselves can reverse disparities in outside support for some of the most vulnerable people in prison.

While research has demonstrated that in-person visits can benefit incarcerated people, their families, and the wider community by increasing well-being and decreasing recidivism, structural factors in U.S. corrections systems impede efforts to encourage this connection. Throughout most of the country, people convicted of crimes wind up incarcerated in facilities in remote locations. The fact that typically people are held at great distances from their home communities continues to be a significant barrier to meaningful contact. Although video visits contribute to easing the separation, it would be far preferable if corrections departments nationwide eliminated this factor entirely. Housing people in their custody in facilities that are close to, and accessible from, their home communities could go a long way toward supporting people during their incarceration and as they reenter society and seek to build stable, connected lives.

Appendix A
Methodology

Vera analyzed administrative datasets from WADOC and JPay and conducted interviews with incarcerated people.

Vera first looked to see how often people had video visits and who took part in them. Vera also conducted analyses to determine whether participation in video visits affected users' in-person visit rates or the number of disciplinary infractions they received. To do so, the researchers analyzed administrative data from WADOC and JPay on all people who passed through WADOC's custody between January 1, 2012 and November 30, 2015, including people's disciplinary records, in-person visit records, and (from JPay) the dates and times of video visits.

Researchers identified the date on which each person was first exposed to video visiting—that is, the date on which it was first introduced to the facility in which they were housed. To conduct a pre- and post-exposure test, Vera selected a sample of people who had been in custody for at least one year prior to their first exposure and at least one year afterward. From an original dataset of 42,049 people, this criterion produced a study sample of 9,217.

To estimate the effect of the treatment (video calls) on the treated (those who used the system), researchers used two different methods, described below. When the two methods produced the same result, the researchers could have greater confidence in the findings. The outcome measures for both analyses were 1) the average number of in-person visits per year, 2) the average number of infractions per year, 3) the average number of general infractions per year, and 4) the average number of serious infractions per year. Both methods assume that the researchers have measured all the covariates that act as confounders—that is, those variables that are predictive of both using the video visiting program and are predictive of the outcomes (infractions and in-person visits).

The first analytic method used **inverse probability of treatment weighting/difference in differences** (IPTW/DID), which reweights the control group so that it looks like the treatment group. The first step is to estimate the propensity score, or conditional probability that a given person was treated (that is, received the given level of video visiting) conditional on their observed covariates. Then, everyone in the treatment group was given a weight of 1, while everyone in the comparison group was given a weight equal to $e(x)/(1 - e(x))$, where $e(x)$ is the estimated propensity score. The treatment group was compared to the reweighted control group to see whether the two groups were sufficiently similar, or balanced, with respect to the confounding covariates. If balance was not sufficiently close, the propensity score model was tweaked until the reweighting yielded adequate balance.[20] After adequate balance was achieved for a given treatment variable, a regression analysis was performed on the reweighted sample for each outcome of interest where the response variable in each case was the difference between the pre-treatment version of the outcome and post-implementation of the variable. This differencing over time, combined with the differencing across treatment (exposed) and comparison (not exposed) groups yields a difference-in-differences estimate of the estimand.

Results of the IPTW/DID analysis were compared with the findings of the second method, **Bayesian additive regression trees** (BART).[21] This method capitalizes on a machine-learning-based approach to adjust for the covariates. The idea is to fit a very flexible model for the outcomes given the confounders that allows the researchers to predict, for each person who participated in the video visiting program what *would have* happened to them (regarding infractions and in-person visits) if they had not used the service. Comparing the average predicted outcome for everyone in the treatment and control groups allows the researchers to obtain an unbiased estimate of the treatment effect.

In both approaches, the researchers controlled for the potential impact of the following variables on the outcome measures:

- race;
- gender;
- age;
- whether this was the person's first admission to prison;
- mental health needs;
- gang membership;
- weighted average distance from home;
- number of readmissions to custody during the study period;
- number of facility moves in the year prior to implementation;
- number of visits and visitors prior to implementation;
- number of infractions and infractions resulting in segregation prior to implementation; and
- length of time in custody prior to implementation.

The figures on page 22 show the standardized differences for the covariates used in propensity score matching before and after weighting. Seventeen covariates were included for the service user treatment group (left) and 16 covariates were included for the high user group (right). Balance was easier to achieve for the user group than for the high user group. Researchers prioritized achieving balance on weighted average distance in the pre-exposure period (weighted_avg_dist_pre) and the number of visits in the pre-exposure period (nvisits_preS).

The results of the IPTW/DID regression and BART are presented in Appendix B.

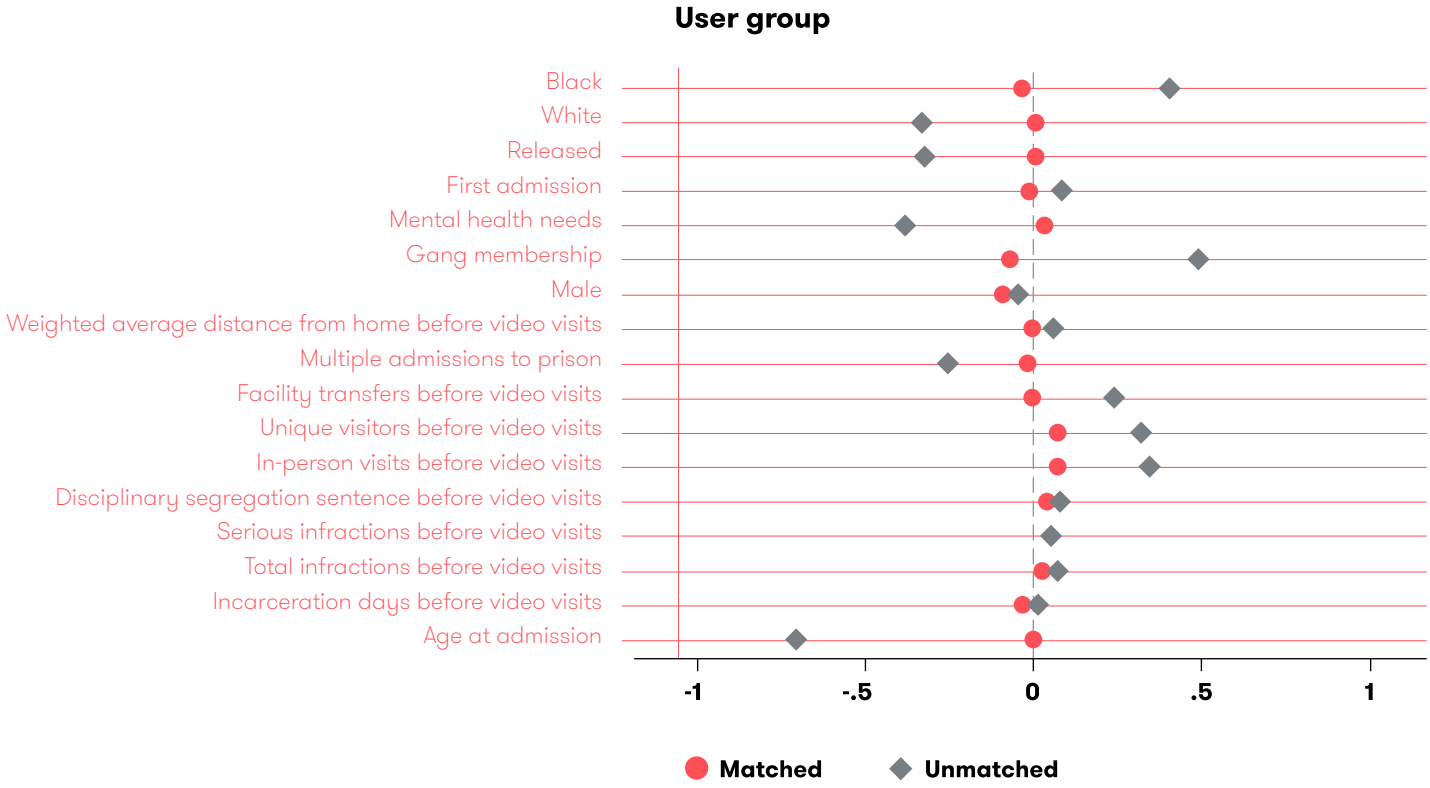
To aid in the interpretation of the quantitative analysis, Vera researchers visited two WADOC prison facilities in December 2015 and conducted semi-structured interviews with 20 incarcerated people (10 men and 10 women) about their experiences of in-person visits and the video visiting system. Participants were selected at random from a list of people who had used the service within the previous month. Researchers conducted the interviews in a private room without corrections staff. Everyone approached for interviews agreed to participate.

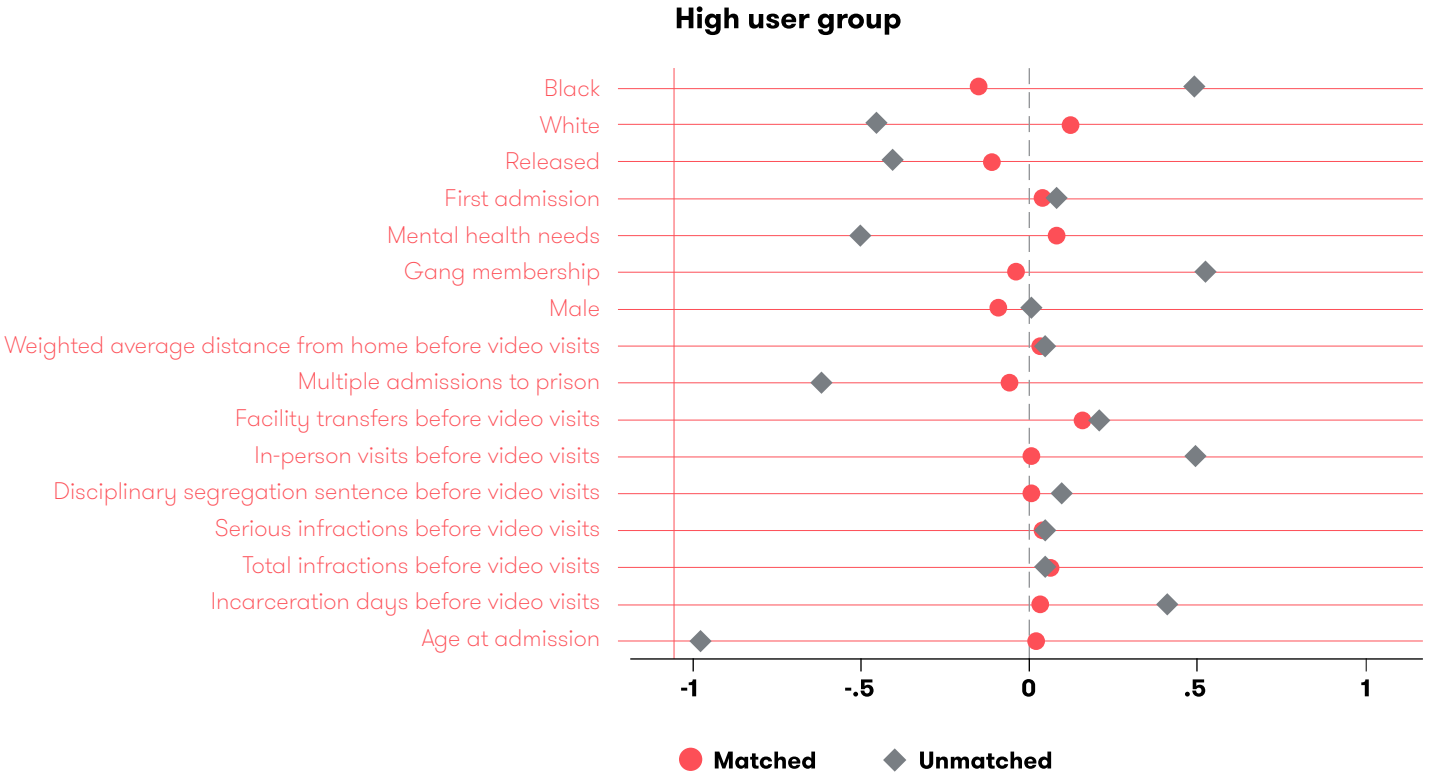
Next, Vera investigated the frequency of in-person visits, and sought to understand the factors associated with the number of visits that people received. To do so, Vera analyzed individual-level data from WADOC. The data referred to a one-year cohort (November 30, 2014 to November 30, 2015) and consisted of the 11,524 people who were incarcerated in WADOC facilities for the entire period. Of this sample, 94.4 percent (10,883 people) were men and 5.6 percent (641 people) were women.[22] The majority of the population (63.5 percent) was white, while black people made up 19.5 percent of the population, Hispanic people made up 7.7 percent, Native Americans made up 4.2 percent, and other minority groups made up 5 percent.

The data Vera received included demographic and incarceration information, home ZIP Codes, and information on in-person visits (including the dates and the number of visitors). For each person in the dataset, Vera calculated the distance between their prison facility and their home. To approximate this value, Vera calculated the direct distance between the central point of the ZIP Code of their prison facility and the central point of their home ZIP Code (as recorded on admission to custody). Where home ZIP Codes were unavailable (n=4,368), the research team used the ZIP Code of their county of commitment. Ninety people in the cohort had neither ZIP Code and were thus excluded from the analysis. Incarcerated people are often moved between different facilities, meaning they may be held at multiple

Figure 5

Differences in covariates before and after matching





distances from home during a year. To account for this, Vera created an *average weighted distance from home.* This adjusted the distance from home for each person, depending on the length of time they spent in each facility during the year. To do so, researchers used the following formula:

$$\text{Average weighted distance} = \frac{(d1*t1) + (d2*t2)\ldots}{365}$$

Where d1 = the distance (in miles) between a person's first facility and their home, and t1 = the number of days they were held at that facility during the year period. Distance and time at their second facility are marked as d2 and t2, and so on. The resultant figures represent a straight-line distance between prison and home. Vera conducted regression analyses to determine the degree to which different individual-level factors were associated with the number of in-person visits each incarcerated person received. Vera researchers used a *negative binomial* model, a type of generalized linear model that allows for discrete distribution (a count of the number of visits received), restricts predicted values to non-negative values, and accounts for the variance of the outcome variable that is higher than the mean. An omnibus test compared the model against a model without any predictors and showed that it was a significant improvement ($p<.01$).[23] Full detail of the model can be found in Appendix C.

Appendix B

BART and IPTW/DID results

The results for the video visit user group are presented in Table 4. Both BART and IPTW/DID regression show a statistically significant positive treatment effect on the number of in-person visits. Since the outcomes are logged, the treatment effect estimates must be exponentiated to have a meaningful interpretation. A treatment effect estimate of 0.34 means that the treatment increased in-person visits by a factor of $e^{0.34} = 1.4$. In other words, the treatment resulted in a 40 percent increase in the number of in-person visits per year. The corresponding confidence interval is (1.15, 1.71). Based on the BART results, using the video visit service results in a 47 percent increase in in-person visits per year, with confidence interval (1.37, 1.58). Using the service did not have any effect on infractions regardless of method.

Table 4

Estimates of the effect of using video visitation on in-person visits and infractions

Outcome/method	Linear regression	IPTW regression	BART
Rate of in-person visits	0.19 (0.09) [0.02, 0.36]	0.34 (0.10) [0.14, 0.54]	0.39 (.04) [0.32, 0.46]
Number of all infractions	-.01 (0.03) [-.07, 0.06]	0.01 (0.03) [-0.06. 0.07]	-0.00 (0.03) [-0.05, 0.06]
Number of general infractions	0.00 (0.02) [-0.05, 0.05]	0.01 (.03) [-0.04, 0.06]	-0.02 (0.08) [-0.17, 0.14]
Number of serious infractions	-.02 (0.03) [-.07, 0.3]	-0.02 (0.03) [-0.07, 0.03]	-0.05 (0.06) [-0.17,0.07]

Note: Each cell displays the treatment effect estimate along with the standard error in parentheses and a 95 percent confidence interval in square brackets. The results are on a log scale.

Table 5 presents results for the high user group. Based on IPTW/DID regression and BART, the treatment resulted in 50 percent more in-person visits, with confidence intervals of (1.03, 2.16) and (1.31, 1.72), respectively. For both IPTW/DID regression and BART, the effect of the high treatment was not statistically distinguishable from zero for any of the infraction outcomes.

Table 5

Estimates of how the high use of video visitation affected in-person visits and infractions

Outcome/method	Linear regression	IPTW regression	BART
Number of in-person visits	0.21 (0.18) [-0.13, 0.56]	0.40 (0.19) [0.03, 0.77]	0.40 (0.07) [0.27, 0.54]
Number of all infractions	-0.01 (0.07) [-0.14, 0.13]	-0.01 (0.06) [-0.12, 0.11]	-0.01 (0.03) [-0.60, 0.43]
Number of general infractions	0.01 (0.05) [-0.09, 0.12]	0.02 (0.05) [-0.07, 0.11]	-0.04 (0.05) [-0.09, 0.10]
Number of serious infractions	-0.05 (0.05) [-0.15, 0.05]	-0.05 (0.05) [-0.15, 0.04]	-0.05 (0.04) [-0.13, 0.05]

Note: Each cell displays the treatment effect estimate along with the standard error in parentheses and a 95 percent confidence interval in square brackets. The results are on a log scale.

Appendix C

Regression analysis

Vera conducted a negative binomial regression analysis to estimate how distance from home, gender, race/ethnicity, mental health status, age, and length of time spent in prison relate to the number of visits received in a year.[24]

Table 6

Categorical variable information

Factor	N	Percent
Gender		
Male	10,785	94.4%
Female	1,561	.000%
Race/ethnicity		
Asian/Pacific Islander	436	3.8%
Black	2,231	19.5%
Hispanic	882	7.7%
Native American	483	4.2%
White	7,247	63.4%
Other	146	1.3%
Mental health needs		
No	8,385	73.4%
Yes	3,040	26.6%

Note: Vera created a dummy variable where anyone with a mental health treatment code (PULSHES) of 2 or higher was considered to have mental health needs and those with codes 0 or 1 were considered to have no mental health needs.

Table 7

Continuous variable information

Variable	Minimum	Maximum	Mean	Standard deviation
Dependent variable				
Number of visits	0	205	8.49	19.159
Covariates				
Age	15	96	39.29	12.336
Weighted average distance from home (miles)	0	2,792	129.53	141.655
Length of incarceration (years)	0	67.85	5.729	7.171

Table 8

Omnibus test

Likelihood ratio chi-square	Df	Significance
4,245.82	11	.000

Table 9

Parameter estimates

		95% Wald confidence interval		Hypothesis test
Parameter	**Exp(B)**	**Lower**	**Upper**	**Significance**
Intercept	23.669	21.654	25.873	.000
Weighted average distance	.991	.991	.992	.000
Weighted average distance squared	1.0	1.0	1.0	.000
Gender (ref=male)				
Female	1.431	1.312	1.561	.000
Race (reference=white)				
Asian/Pacific Islander	.808	.728	.897	.000
Black	.879	.834	.927	.000
Hispanic	.744	.688	.804	.000
Native American	.810	.732	.896	.000
Other	.865	.725	1.032	.108
Mental health need (reference=yes)				
No	1.576	1.504	1.652	.000
Age	.981	.979	.983	.000
Length of incarceration	1.02	1.016	1.023	.000

Dependent variable: Number of visits per year

Endnotes

1 John D. Wooldredge, "Inmate experiences and psychological well-being," *Criminal Justice and Behavior* 26, 2 (1999): 235-250.

2 Grant Duwe and Valerie Clark, "Blessed be the social tie that bind them: The effects of prison visitation on offender recidivism," *Criminal Justice Policy Review* 24, 3 (2011): 271-296.

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11 Johnna Christian, "Riding the bus: Barriers to prison visitation and family management strategies," *Journal of Contemporary Criminal Justice* 21, 1 (2005): 31-48; Hollihan and Portlock, 2014.

12 Differences between the three sample groups were controlled for when testing for the effect of service use. See Appendix A, Figure 4, for more details of the covariates before and after matching.

13 The interviews supported and added detail to the findings of Vera's previous survey of people who are incarcerated in WADOC (Digard, diZerega, Yaroni, and Rinaldi, 2016).

14 Digard, diZerega, Yaroni, and Rinaldi, 2016.

15 Sonja E. Siennick, Daniel P. Mears, and William D. Bales, "Here and gone: Anticipation and separation effects of prison visits on inmate infractions," *Journal of Research in Crime and Delinquency* 50, 3 (2013): 417-444.

16 Exp(B)=0.991, $p<0.001$.

17 For national trends, see Bureau of Justice Statistics, 2004.

18 The average age of incarcerated people in Vera's sample was 39 years (median = 37). Although most people were between the ages of 26 and 45, nearly 30 percent of incarcerated people were over the age of 45.

19 People were identified as having a mental health need in the data if they were assigned a mental health code of 2 or higher. "A primary therapist (a mental health provider responsible for coordinating the offender's mental health care) is assigned prior to arrival at the facility for each offender with a PULHES "S" code of 2 or higher." (Mental Health Services, DOC 630.500).

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21 Hugh A. Chipman, Edward I. George, and Robert E. McCullouch, "BART: Bayesian additive regression trees," *Annals of Applied Statistics* 4, 1 (2010): 266-298.

22 This is roughly consistent with the snapshot population breakdown on September 30, 2016. Men made up 92 percent of the population and women made up 8 percent. See http://www.doc.wa.gov/docs/publications/16-282-FC1.pdf.

23 This tests whether the model explains the variance in visits within the dataset better than the baseline model (a model without any predictors).

24 Data were used for all people held in WADOC custody for the entire year period ending November 2015.

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