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## Original Article

## Views of Electronic Visit Verification (EVV) among home-based personal assistance services consumers and workers

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## ABSTRACT

**Background:** The 21st Century Cures Act, enacted in 2016, mandates that Medicaid programs must implement Electronic Visit Verification (EVV) for home-based personal assistance services (PAS) and home health care (HHC) by January 2020. EVV involves real-time tracking of arrival and departure times, locations, and sometimes activities of PAS and HHC workers for home-based consumers.

**Objective:** We examined the views and perceptions of consumers with disability and paid PAS workers about EVV.

**Methods:** Our qualitative study consisted of in-depth interviews with 21 home-based PAS consumers with significant disability and 20 PAS workers. Thirteen consumers and 10 workers commented on EVV. We audio-recorded interviews and had these recordings transcribed verbatim by a professional transcription service. We used conventional content analysis to identify key themes from the interviews.

**Results:** Qualitative interviews suggest that EVV is intrusive, reduces flexibility from the consumer-worker relationship, has technical difficulties, but may help certain consumers. Our results suggest that EVV interferes with the standard way PAS is provided and raises fears about EVV negatively affecting recruitment and retention of PAS workers.

**Conclusions:** Policymakers should consider these perspectives and concerns as states implement EVV. Policymakers will need to monitor the effects of EVV on both PAS consumers and workers over time to ensure that EVV is not negatively affecting provision of these essential services.

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## 1. Introduction

Section 12006 of the 21st Century Cures Act, signed by President Obama in December 2016, mandates that Medicaid programs must implement Electronic Visit Verification (EVV) for home-based personal assistance services (PAS) and home health care (HHC). The original January 2019 deadline was extended to January 2020, and states that show some progress in implementing EVV may have until January 2021 to comply.<sup>1,2</sup> EVV involves real-time tracking of arrival and departure times, locations, and sometimes activities of PAS and HHC workers for home-based consumers. EVV also verifies the consumer's identity. No uniform standard currently exists for individual states to implement EVV, and states have flexibility in how they choose to implement EVV. Options include verification

through telecommunication, internet-based, mobile app and/or GPS technologies. So far, where EVV has been implemented, the focus has been on telephone timekeeping and GPS tracking. States will lose up to 1% of their Medicaid federal matching funds if they do not institute EVV or show substantial progress in its implementation by January 2021.<sup>2–4</sup>

The Cures Act included the EVV mandate to address concerns about potential widespread waste, fraud, and abuse involving Medicaid-funded, home-based PAS and HHC. Consumer advocates with disability who required this support to live in the community rather than being institutionalized greeted this mandate with protests and concern.<sup>5,6</sup> Advocacy groups asserted that, although individual instances of PAS fraud do occur, no evidence exists of widespread abuse and inappropriate Medicaid PAS expenditures.<sup>6</sup> Additionally, consumers argued that it is already difficult to find and retain high-quality, reliable PAS workers, and that onerous, unnecessary EVV requirements could make those tasks even harder. The introduction of EVV arrives as gaps widen between PAS needs of consumers with disability and the paid PAS workforce.<sup>7,8</sup>

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Apart from anecdotal reports, little is known about the views about EVV of consumers with disability and paid PAS workers. This limited information suggests that consumers with disability view EVV as an invasion of privacy that undermines their autonomy.<sup>5,6</sup> We conducted a larger study involving interviews with PAS consumers and workers about wide-ranging aspects of home-based supportive services. Although EVV was not specifically addressed in our interview protocol, more than half of consumers and half of worker interviewees raised the issue. Here, we describe the views of these consumer and worker interviewees about EVV. Learning more about how consumers and workers perceive EVV is important to anticipate its effects on both consumers and the PAS home-based workforce.

## 2. Methods

The Partners HealthCare System/Massachusetts General Hospital Institutional Review Board approved this study. These findings come from a larger study about home-based PAS,<sup>9</sup> which included in-depth, open-ended interviews with 21 individuals with significant disability and 20 paid PAS workers. In this paper, we describe views about EVV expressed by the 13 consumers and 10 workers who commented on this topic.

### 2.1. Eligibility criteria

To qualify for our study, consumers must: have been receiving paid home-based PAS for at least one year; have required assistance with at least one ADL (bathing, dressing, toileting, feeding, or mobility assistance) and at least one Instrumental ADL (IADL, e.g., preparing meals, light housework, managing medications); have been approximately 45–70 years old; and spoke English. We sought consumers in the 45- to 70-year age range to capture views of individuals in middle age through early old age. We chose this age range because much of the literature on home-based services has focused on very old persons; however, younger individuals might have different views about and preferences for home-based PAS.<sup>7</sup> In particular, they might prefer consumer self-directed PAS over agency PAS, compared with older generations. Our functional criteria assured inclusion of individuals requiring assistance with basic daily needs.

Workers were eligible if they were employed to provide paid home-based PAS, assisted consumers with at least one ADL support need, were 18 years old or older, and spoke English. We aimed to include both workers employed by agencies and those hired directly by consumers.

### 2.2. Recruitment approach

We sought to interview 20 consumers and 20 workers with some representation from around the U.S. We relied primarily on professional, disability advocacy, and personal networks to solicit interviewees; we contacted disability rights advocacy groups and centers for independent living in Massachusetts, Illinois, South Carolina, and California. We also recruited through home health agencies, providing flyers about the study information for consumers and workers. We also employed snowball sampling, asking participants to recommend others for interviews; this approach produced participants from New York and Texas.

Although we sought perspectives of both PAS consumers and workers, we did not want to jeopardize their relationships (e.g., the interview protocol asked about trust, abuse, and other sensitive topics). Therefore, we did not seek interviews with consumer-workers dyads. In three instances, however, through snowball sampling, we interviewed both a consumer and that person's

personal assistant (PA). We included these individuals because they each explicitly wanted to be interviewed and each had unique circumstances that increased the diversity of our sample (i.e., underrepresented geographic region, sexual orientation). These interviews were conducted separately. To maintain the study's integrity, during these interviews, the interviewer did not mention any information provided by the interviewee who recommended the individual.

### 2.3. Interview protocol and procedures

We developed separate semi-structured, open-ended interview protocols for consumers and workers; questions for both groups addressed seven parallel and broad domains. We asked consumers about the needs of people who get home-based PAS, how they feel about their PAS, and how they feel about their relationships with their PAs. We questioned the home-based PAS workers about their job, as well as their feelings towards their job and clients. The open-ended nature of our interview allowed participants to raise EVV and discuss other topics of interest to them. The protocol is available upon request.

One author (L.I.I.) conducted all 41 interviews, which occurred individually. All worker interviews were performed by telephone, as were 16 consumer interviews. Although interviews were conducted by telephone, participants may have been in their homes, at their workplace, or elsewhere in their communities. The interviewer performed five consumer interviews in-person; consumers and workers received a \$50 gift card for participation. The consumer and worker interviews mentioning EVV averaged 66 and 42 min respectively. All interviews were audio-recorded and transcribed verbatim by a professional transcription service. Another author (N.G.) listened to all recordings while reviewing the transcripts, making minor content-related corrections.

In one instance, a consumer's PA arrived at the consumer's apartment towards the end of the interview. The consumer asked this worker for her perspective of EVV. We included this worker's responses, which were recorded in the transcript, in our analysis even though she did not complete her own interview or provide identifying information. In another case, a friend of a consumer participant was present during the interview to accommodate communication for that participant, who could not speak due to the nature of his disability.

### 2.4. Analysis

N.G. reviewed each transcript multiple times to identify potential themes and ensure completeness of the analyses. All comments related to EVV were compiled into a single document for qualitative analysis. Each author examined these data individually. We then used conventional content analysis to interpret the data and identify themes.<sup>10</sup> The authors reached consensus about the final themes through discussion.<sup>11,12</sup> We reached data saturation in both our larger study and in our smaller analysis of themes related to EVV. Below, we present exemplary quotations to elucidate the themes, shortening the quotes as indicated by ellipses. Appendix Exhibits A and B provide complete quotations of the top themes reported by consumers and workers, respectively.<sup>13</sup>

We use the terms "personal assistant (PA)," "PAS worker," and "worker" synonymously below. We chose this terminology when mentioning a consumer interviewee's worker because some consumers strongly preferred the PA terminology. We use the term PAS worker or worker when describing findings from worker interviewees.

### 3. Results

Tables 1 and 2 present demographic characteristics of the 13 consumer and 10 worker interviewees, respectively, who commented on EVV. Consumers' mean age was 57.5 years, about half were male, roughly two-thirds were White, non-Hispanic race/ethnicity, and all had education beyond high school. Nine consumers used self-directed PAS, and one used an agency-with-choice model PAS (i.e., blend of consumer self-directed and agency model, where consumers hire and manage their PAs but a homecare agency performs background checks and payroll functions). Workers' mean age was roughly 44.8 years, one was male, race/ethnicity was diverse, few had education beyond high school, and most worked for agencies.

#### 3.1. EVV approaches

More than half of consumer interviewees have either used EVV with their home-based PAS or have not but nevertheless offered opinions about EVV. Seven worker interviewees who commented on EVV had used a verification system in some way. Most consumer and worker interviewees who used EVV resided in Illinois, Massachusetts, and New York; EVV had not yet been implemented in California, and was only partially implemented in Massachusetts, at the time of the interviews.

**Table 1**

Demographic characteristics, disabling condition, and PAS model of consumer interviewees who commented on EVV.

Interviewee attribute	n = 13
Age at time of interview: years, mean (standard deviation)	57.54(5.43)
Age category at the time of interview	
50–54 years old	4
55–59 years old	4
60–64 years old	4
65–70 years old	1
Female <sup>a</sup>	7
Race	
White non-Hispanic	9
Black non-Hispanic	3
Hispanic ethnicity	1
Geographic region <sup>b</sup>	
Northeast	6
Midwest	4
South	1
West	1
Marital Status	
Single	6
Partnered	3
Married	1
Divorced	3
Education	
Some college	4
Associate's degree	1
Bachelor's degree/registered nurse	4
Master's degree	4
Disabling condition	
Spinal cord injury (SCI) <sup>c</sup>	3
Cerebral Palsy (CP)	3
Spinal muscular atrophy, muscular dystrophy	2
Multiple Sclerosis (MS)	2
Other <sup>d</sup>	4
PAS model	
Consumer-directed model	9
Agency model	3
Agency-with-choice model	1

<sup>a</sup> Male = 6.

<sup>b</sup> States include: California, Illinois, Massachusetts, New York, and Texas.

<sup>c</sup> One participant with SCI was born with CP and is counted twice.

<sup>d</sup> Cerebellar ataxia (1); stroke (1); Sciatica/cellulitis (1); Fibromyalgia/arthritis (1).

Interviewees reported different approaches towards EVV. Some workers described calling in and out using the consumer's phone (preferably a landline), and others reported having to download an EVV app, which included GPS tracking, onto their personal smartphones. For one consumer, EVV involved a small box that provided a code that workers must call in and enter. Two consumers described their workers clocking in and out with a tablet that remained at the consumer's home; in the tablet EVV was integrated within a point-of-care electronic health record system. In addition to reporting time and location information, some interviewees described documenting specific activities performed for the consumer.

#### 3.2. Consumers' views of EVV

The major themes reported by PAS consumers included how EVV reduces flexibility, is intrusive, but is acceptable under certain circumstances. Seven consumers described situations where EVV diminished flexibility in their relationships with their PAs, and five consumers mentioned EVV's intrusiveness; these respondents primarily received care under the consumer self-directed model. These concerns were closely related: many who commented on how EVV reduces flexibility also raised concerns about intrusiveness in that context. These paired themes suggest that EVV interferes with the work flow and how PAS is typically provided. Overall, these concerns were related to the two main components of EVV: time-keeping and GPS-monitoring.

##### 3.2.1. Inflexibility and intrusiveness

Four consumer interviewees disliked how EVV monitors time-keeping, indicating that EVV removed flexibility and ability to manage their own schedule. One consumer explained, "My stuff's really complicated because there are days, with my autoimmune stuff, I need people to stick around much longer, and there are days they leave sooner." (Appendix Exhibit A presents full quotations.)<sup>13</sup> This flexibility can be mutually beneficial, with many consumers expressing willingness to accommodate workers' preferences or needs into their own schedules. This same consumer elaborated: "[EVV] takes away from the relational piece of it. For somebody who is taking a bus and a train or two buses to get here, and they're getting here 15 min late and they want to leave 10 min early, are you really going to have them check out? That's unethical. It's wrong." Another consumer added: "I don't want somebody to stay for 3 hours. Let's get done and get out and start our days ... So, with the electronic verification stuff, I probably would've had ... somebody sitting there ... killing time." Two interviewees mentioned that having time-keeping happening inside their home was intrusive, with one consumer even referring to EVV as a "virtual nursing home."

Five consumer interviewees had concerns about how EVV monitors the location of their activities, noting that GPS-tracking feature interfered with their flexibility to manage the activities they need completed in a given shift. As noted above, consumers want to move on with their day and be active in the community. One consumer said: "I'll meet them downtown to empty the leg bag and get something fast to eat. It's like a 20-min deal. Do you get them to check in and check out for that? No. No, it's part of the total hours." Another consumer stated: "... We set up a [grocery home delivery] order for Friday, and I said to her, 'Depending on where you are, would it be just as easy for you to just go right to [grocery store] and then come to the house?' And she said, 'No. I really have to clock in.'"

Five consumers commented on how the location feature violated their privacy inside and out of the home. "The EVV system has been making us prisoners in our own homes," reported one

**Table 2**  
Demographic characteristics, PAS model, and amount of PAS experience among worker interviewees who commented on EVV.

Interviewee attribute	n = 10 <sup>a</sup>
Age at time of interview: years, mean (standard deviation)	44.78 (11.26)
Age category at the time of interview	
30–34 years old	2
35–39 years old	2
40–44 years old	0
45–49 years old	1
50–54 years old	1
55–59 years old	3
Female <sup>b</sup>	8
Race	
White non-Hispanic	3
Black non-Hispanic	3
Hispanic ethnicity	3
Geographic Region <sup>c</sup>	
Northeast	6
Midwest	1
West	2
Education	
Less than high school	1
Some high school	1
High school diploma/GED	4
Some college/certificates	1
Bachelor's degree	2
PCA model	
Consumer-directed model only	2
Agency model only	6
Combination of both models	1
Duration in years of PCA experience (mean, standard deviation)	12.45 (15.15)
0–4 years' experience	4
5–9 years' experience	2
10–14 years' experience	1
15–19 years' experience	0
20+ years' experience	2

<sup>a</sup> We have missing demographic data on one worker because she informally contributed to a consumer's interview by adding her thoughts on EVV. She did not complete her own interview.

<sup>b</sup> Male = 1.

<sup>c</sup> States include: California, Illinois, Massachusetts, and New York.

consumer; another said, "... don't need no big brother watching me, seeing me and what I'm doing in my house and stuff." The location monitoring feature both removes flexibility and is intrusive, with one consumer observing, "... Maybe half the shift we're not even together, and I really don't feel like it's the state's business."

### 3.2.2. EVV can be useful

Five consumers found that EVV is helpful in some situations. One consumer described instances where one of her PAs did not want to do all of her assigned activities, and the consumer stated, "I think it's good for them ... they can spend all the hours they're supposed to with me. If they don't want to spend it, they won't get paid for it." In this case, EVV serves its intended goal of detecting waste, fraud, or abuse. For this reason, another consumer interviewee reported, "So EVV I think should be a choice. There are some folks who want to know. They want to be able to say, 'Yes, they came at this time,' and to say, 'They left at that time.' There might be one or two PCAs over the years that I would have liked to have done that..." Of the five consumers who expressed positive interactions with EVV, three received their home-based PAS through an agency. Some of these consumers reported having their EVV integrated into an electronic health records system, which they described as especially helpful in documenting personal care activities and other notes.

## 3.3. Worker's views of EVV

### 3.3.1. Intrusiveness

Similarly to consumer interviewees, workers' concerns largely involved EVV's time-keeping and location monitoring features, with workers particularly concerned about the intrusiveness of location tracking. Worker interviewees did not want to be tracked on their own personal phones during or outside of working hours. As one worker said about EVV, "... To me, it's personal. You're invading personal space ... You're asking people to utilize their personal property to track where they are. And to me, that's a problem." (Appendix Exhibit B presents full quotations).<sup>13</sup> Another worker agreed and added, "If they [were] to provide tablets, I think that would be better because it's not invasive to our privacy ...". Another described location monitoring as a marker of distrust and stated, "they're trying to ding people ... and say, 'Aha, we caught you committing fraud, and now you're going to be part of the prison system.' So [consumers and workers are] always the targets of the surveillance state, not any other type of people."

### 3.3.2. Technical difficulties

Four workers reported technical difficulties associated with clocking in and out with the EVV app. Some workers mentioned that the app is difficult for consumers with manual dexterity problems to use since limited function in their hands prevented them from signing in. One worker reported that the consumer she assisted could not sign at all, while another reported needing to purchase a new phone with a stylus just to make signing easier for

her clients. Other workers described having difficulty in situations where the phone lines were malfunctioning or if they forgot to clock in or out.

Other concerns relate to accuracy of the location monitoring. One worker described an instance where the EVV app tracked her location incorrectly: "... So if the app was with my consumer in East Boston, that app would probably, for whatever reason, say that we are in Cambridge, and we probably would have to [call and say] 'we're somewhere else ...'"

### 3.3.3. Inflexibility

Similar to some consumers, workers expressed concern with the loss of flexibility associated with EVV. One worker stated, "So, whoever came up with that idea at the state level does not seem to know how PCA work works." This flexibility was noted with the tasks workers could complete and the hours workers use to complete them. For example, some workers find it helpful to run errands for their consumer while the consumer stays home or is away at work. Another worker explained, "It's not like task for task. It becomes an accumulative number of hours, and then people divide up those hours between their workers and their needs, and they get their needs met. And we have to be creative about it..."

### 3.3.4. Satisfaction

Four workers, all employed by homecare agencies, expressed satisfaction with EVV. Some denied having any problems with EVV, and others described liking a new system better than an older version. One worker reported often forgetting to turn in paper timesheets: "... You don't know how many times I've lost my timesheets, or I've left my timesheets, and you never leave your phone ... So in that aspect, I kind of like it..." This worker appreciated that EVV allows for clocking in and out in real time because she no longer had to return her timesheets to the agency. Another worker preferred EVV on her own cell phone rather than using her clients' landline because she no longer had to rely on these landlines, which often malfunction, preventing her from clocking in on time.

## 4. Discussion

According to the 21st Century Cures Act, all state Medicaid programs must make substantial progress towards implementing EVV in a way that is "minimally burdensome" to PAS consumers and workers. In accord with anecdotal consumer reports,<sup>5,6</sup> our PAS consumer and worker interviewees expressed concerns that EVV would violate their privacy inside and outside their workplaces, which are the consumers' homes. The top reservations were related to EVV's intrusiveness, potential to reduce flexibility in the consumer-worker relationship, and difficulties with EVV technologies, notably the telephone time-keeping and location monitoring features. Both consumers and workers felt that location monitoring was intrusive. Consumers also reported that EVV's time-keeping component decreased flexibility in the consumer-worker relationship. Workers, on the other hand, reported substantial technical difficulties with the time-keeping feature. Still, almost half (nine of the twenty-three participants) reported some positivity towards EVV.

The limited research on the effects of EVV has focused primarily on the benefits to homecare agencies. One study found that agencies could eliminate administrative costs associated with managing paperwork and reduce errors by having timesheet data entered in real-time; implementation costs are minimized since EVV software is downloaded primarily on the workers' smart phones and tablets.<sup>14</sup> However, training on how to use the technology does generate some costs.<sup>3</sup> States that apply GPS tracking

might cut costs by monitoring whether workers are over-compensated for mileage and hours worked.<sup>14</sup> Some claim that EVV also benefits consumers by reducing workers' time spent on paperwork, allowing more time to support consumers' needs.<sup>14</sup>

In contrast to these studies,<sup>3,14</sup> our findings suggest that EVV might not be the most effective way to manage home-based PAS. Taking away flexibility by implementing EVV may negatively affect consumers who need extra time with their PA on some occasions, but less time in other circumstances. Some consumers worried about not being able to move on with their day after their ADL needs are met because they must wait for their PA to clock out at the designated time. EVV may therefore contribute to wasting PA hours when their services are no longer needed by consumers, while PAs may in other instances be unavailable when consumers need extra assistance. These concerns contradict claims that EVV allows more time to be spent on supporting consumers.<sup>14</sup> Because training workers to use EVV carries some costs,<sup>3</sup> the technical difficulties that interviewees described might require some attention. Given the frequent turnover among PAS workers, training costs could rapidly accumulate.

Commitments to consumers and job flexibility are two major attractions of PAS jobs.<sup>15</sup> One worker interviewee in our larger study reported that she entered the PAS workforce specifically because the job's flexibility allowed her to structure work hours around raising her children. Other workers reported needing flexibility to help their consumers with tasks that may not be authorized under their state's plan, such as care outside the home. Our larger study found that many consumers have jobs and leisure activities in the communities where their PAs are unauthorized to assist them. These consumers reported that the flexibility allotted in the consumer self-directed model of PAS helps them participate in their communities; however, EVV would detect and potentially penalize both consumers and workers for these community-based activities. In this way, EVV would do exactly what it aims to do – detect potentially fraudulent hours of out-of-home service not authorized by the program. However, it would simultaneously harm some consumers by depriving them of the flexibility necessary to fulfill their goals for daily activities. This clearly is a problem relating to programmatic restraints on where PAS can be performed (i.e., in-home only versus in-home and in the community). EVV enforces these programmatic constraints.

Workers may also lose out on wages if their hours are reduced – increasing work hours and thus income is another important motivator for PAS workers.<sup>15</sup> PAS is low-wage work.<sup>9</sup> If EVV forces workers into specified hours and restricts their ability to work extra hours when consumers wish, this would reduce income and further decrease the desirability of PAS jobs. Furthermore, trust is important within the workplace, which are the consumers' homes.<sup>16</sup> The implicit suspicion and distrust conveyed by EVV tracking reported by worker interviews raises concerns about attracting individuals to join the PAS workforce.

### 4.1. Limitations

We sought in-depth insights into interviewees' experiences through our open-ended interviews. However, as in all qualitative studies with small, nonrandom samples of participants, our findings have limited generalizability. Additionally, most consumers used self-directed PAS, a model where consumers have the authority to hire, train, manage, and fire their own workers. This representation may be explained by recruitment through disability advocacy networks, which have a large constituency of individuals who primarily use consumer self-directed PAS. Few consumers used agency PAS. To the extent that views of EVV differ between consumers using different models of PAS – self-directed versus

agency – our sample could not capture those variations. In contrast, most worker interviewees were employed by agencies.

Excluding consumers and workers who do not speak English also limits the generalizability of our findings. Given the high prevalence of racial and ethnic minorities and immigrants among PAS workers, the lack of non-English speakers especially affects generalizability of our results relating to workers. These interviews were conducted during the summer of 2018. At that time, neither consumers nor workers in some states may have yet been aware of efforts to implement EVV and what form local EVV would take. Cure Act EVV relates to Medicaid programs. Some but not all participants received funding from Medicaid. Lastly, our consumer sample greatly varied in age; given the dependence of EVV on technologies, generational differences could affect perceptions of EVV. However, perhaps because most consumer participants used self-directed PAS, we did not detect differences in views of EVV between our oldest and youngest consumer interviewees.

In conclusion, almost half of our PAS consumer and worker interviewees who commented on EVV reported some degree of satisfaction with it. However, the interviewees that did report concerns raised fears about EVV negatively affecting PAS worker recruitment and retention. Policymakers should consider the perspectives and concerns of both consumers and workers as more states implement EVV in their Medicaid programs. Monitoring the effects of EVV on both PAS consumers and workers will be essential to ensure that EVV does not have unintended consequences – worsening the quality of consumers' PAS support and compromising recruitment and retention of PAS workers.

#### Disclaimer

These findings were presented at AcademyHealth Research Meeting's Disability Research Interest Group on June 1st, 2019 in Washington, DC. Our presentation has not been posted online.

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#### Declaration of competing interest

There are no conflicts of interest.

#### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.dhjo.2020.100938>.

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