

### Background

Over the last two years, NYS OCFS, selected LDSS, and the state legislature provided funding to deploy and test the use of mobile technologies in Child Protective Services (CPS) work. In April 2007, Wayne County Department of Social Services submitted a mobile technology proposal and was awarded funding to deploy laptops for CPS work. As a result, on November 30, 2007, 16 Dell Latitude D620 laptops were distributed to 14 caseworkers and two managers.

Following this deployment in November 2007, an initial assessment of the use of laptops in CPS work took place. The initial assessment examined how mobile technology affects CPS caseworker productivity, mobility, and satisfaction. This extended assessment examined similar questions over an eight-month period, longer than the time period in the initial assessment. .

### District context and deployment

At the time of data collection, Wayne County DSS had 15 CPS staff responsible for child protective services. Wayne County is a mostly rural area with approximately 93,000 residents. Wayne County DSS submitted a mobile technology proposal to OCFS stating that they wanted to learn if connected laptops would provide caseworkers with more opportunities to complete work while waiting in court and in between caseworker visits while in the field. In addition, Wayne's proposal stated they hoped that by using laptops, their district would see improved case coordination and more timely entry of progress notes.

Each participating caseworker received their own laptop and docking station with keyboard and monitor. District-provided external broadband cards were distributed and all access to the State network (i.e., to access the central database) was through a virtual private network (VPN) that secured the transmission to and from the laptop and the network. The district provided all participants with a training manual as well as a one-hour group training session demonstrating basic user functions of the laptop and security precautions.

### In this profile

This profile is specific to Wayne County and brings together the most comprehensive data on the two data collection periods as well as presents findings on use, mobility, productivity and satisfaction.

### Mobility

The overall objective of deploying the laptops was to provide caseworkers with opportunities to work outside the office environment in new ways. This section reports on how participants used those opportunities in terms of 1) type of work done, 2) location of use, and 3) factors influencing use. Additionally, this section reports on the major technical problems reported by the caseworkers. See Appendix A for a full description of the data collection and analysis methods used.

### Use

During the first data collection period, survey respondents reported using the laptop during normal work hours, after hours, on-call, and while working overtime. Therefore, the full range of CPS-related work was completed using the laptops. The laptops were used in case investigation and interventions, documentation and reporting, and court-related activities. Case documentation was the most frequent use identified by respondents including entering and updating notes, completing safety assessments, and court reports. Other work reported included accessing: government Web sites, email, outside database sources (i.e., the Welfare Management System) and driving directions. During the second data collection period, respondents reported using the laptops in similar ways.

In the first data collection period, caseworkers' reported the following benefits to laptop use: 1) access to information while in the field was very important, and 2) needing to return to the office to access case information less frequently. In the second data collection period, respondents reported these same benefits. Lastly, in the first data collection period, some caseworkers reported taking the laptop into the field regularly and other caseworkers reported less consistent or sustained use. This pattern again emerged in the second data collection period. For example, some caseworkers continue to take their laptops into the field and use them before or after their client

visits and some caseworkers do not take their laptops in to the field at all.

### Location

As part of the first data collection period, caseworkers were surveyed on where they used their laptop, as well as the average length of time they used it. Table 2 below represents findings from the first data collection period.

**Table 2 - Location and Hours of Laptop Use per Week**

	Use of Laptop (n)	Average length of use per week
Field	69% (9)	1.70 Hours
Court	31% (4)	0.40 Hours
Home	77% (10)	3.45 Hours
Do not use at all	0% (0)	--

*\* Based on survey respondents who took the post survey n=13. Total number of testers n=14.*

As noted from the table above, the majority of caseworkers used the laptops from their home, followed by use in the field. The data gathered also indicates that caseworkers used the laptops from home for approximately three and a half hours a week. While no survey was used for the second data collection period, interviewed caseworkers still reported using the laptops primarily from their homes after normal working hours. All the caseworkers emphasized the value of having the laptop with them at home during on-calls. If they are not behind on their work or not on-call, caseworkers interviewed reported they generally do not take laptops home.

Caseworkers in the first data collection period reported using the laptops while at the court house. However, technical and privacy barriers were noted. Respondents reported during the second data collection period that many prefer not to use their laptops at court. Several cited too many distractions and lack of privacy as reasons court houses are an unfavorable place to use laptops.

Using the laptops while in the field was reported during the first data collection period. However, some caseworkers reported use in the field while others reported never using the laptops in the field. This pattern remained in the second data collection period. While some caseworkers take their laptops with them in the field, others leave them at their office. In both periods, weather conditions, lack of places to work in rural settings, personal preferences, and policies not supporting field use were reasons for not taking the laptops in the field. Some caseworkers also expressed concern about leaving their laptops in the trunk of their cars; especially in the hotter and colder weather. Although there is currently no statewide policy prohibiting using the laptops in clients' homes, caseworkers indicated that they do not take their laptops into the clients' homes.

Examples in both data collection periods revealed innovative locations for using the laptop. One caseworker used the laptop in a public library to enter notes between appointments. The benefits of the public library included its quiet and relatively private environment to use their laptops while out in the field.

### Technical Problems

During the first data collection period, participants were asked about ease of logging-on to the device. Overall, 91% of respondents said it was "Easy" to "Extremely easy," compared to 9% of respondents who rated the log-on process as "Difficult," none of the respondents rated it as "Neither difficult nor Easy."

Overall, during the first and second data collection period, respondents reported relatively few technical obstacles to laptop use – including 1) relatively little interruption with respect to establishing a connection, slow connection speeds, or losing connections in any locations or 2) relatively little interruption using docking stations. Caseworkers stated they adjusted fairly quickly to the new docking stations. The only technical challenge that was most frequently reported was the length of time needed to boot-up the system and establishing a wireless connection.

### Productivity and Efficiency

This analysis uses central database data to examine two core questions about possible technology impacts within the Wayne County DSS: 1) Are workers with laptops more productive with respect to case closings, safety submissions, and progress note reporting? And 2) Does laptop use change timeliness of reporting? Additionally, this section presents the findings based on an analysis of the perceived usefulness of the laptops. See Appendix A for a full description of the data collection and analysis methods used.

### Case Analysis

Case closing is one way to assess any changes in efficiency and productivity. Figure 1 below shows that the volume of timely closing of cases (in 60 days or less) increased during the test period, up from 443 in the pre-test period to 545 during the test period. The number of cases closed that were over 60 days old increased from 297 to 365 during the test period.

Figure 1- Number of Wayne County LDSS Cases Closed Pre-Pilot and During Pilot

Figure 1- Number of Wayne County LDSS Cases Closed Pre-Pilot and During Pilot

Figure 2 below shows that the percentage (or proportion) of timely closing of cases (in 60 days or less) out of total the cases did not change during the test period. It is important to note that, in this county, the total number of cases available to be worked on increased from 975 in the pre-test to 1,060 during the test period—a 9% increase. Since the proportion of timely case closings did not change despite an increase in cases, we can conclude that an increase in productivity occurred, albeit a modest one. The length of the test period during the second data collection period was 245 days. However, a positive trend in cases closed was also seen during the initial assessment, which lasted 40 days.(2)

Figure 2 - Percentage of Wayne County LDSS Cases Closed Pre-Pilot and During Pilot

Figure 2 - Percentage of Wayne County LDSS Cases Closed Pre-Pilot and During Pilot

### Safety Submission Analysis

The rate of completing safety assessments is another way to assess any changes in efficiency and productivity. Figure 3 below shows the volume of timely submission of safety assessments (in seven days or less) increased during the test period, up from 502 in the pre-test period to 615 during the test period. The number of safety assessments submitted that were over seven days old increased from 235 to 289 during the test period.

Figure 3 - Number of Wayne County LDSS Safety Assessments Submitted Pre-Pilot and During Pilot

Figure 3 - Number of Wayne County LDSS Safety Assessments Submitted Pre-Pilot and During Pilot

Figure 4 below shows that the percentage of timely (within in seven days or less) submission of safety assessments as a percent of total cases changed very little during the test period. However, again, the total number of cases available to be worked on in this county increased from 975 in the pre-test to 1,060 during the test period—a 9% increase. A safety assessment must be completed for each case. Therefore, in the second data collection, caseworkers seemed to maintain their level of submission (approximately 68 percent) despite a 9% increase in cases.

Figure 4 - Percentage of Wayne County LDSS Safety Assessments Submitted Pre-Pilot and During Pilot

Figure 4 - Percentage of Wayne County LDSS Safety Assessments Submitted Pre-Pilot and During Pilot

### Progress Notes Analysis

An indicator of timeliness is elapsed time, which is the number of days between an event and the posting of documentation regarding that event in the central database system. Figure 5 and Figure 6 below show trends in

the elapsed time between progress note entry and the related event. Figure 5 shows that the number of progress notes entered (i.e., volume) slightly increased during the test period from 14,572 in the pre-test period to 16,400 during the test period – a 12.5% increase. Figure 6 shows that the rate of progress note entry decreased slightly during the test period but remained moderate overall. During both periods more than half of all progress notes were entered by the fifth day following the event. In the first data collection period, timeliness (or the rate of entry) decreased slightly during the test, but was a moderate decrease overall.(3).

Figure 5 - Number of Progress Notes Entered by Days Following Event

Figure 5 - Number of Progress Notes Entered by Days Following Event

Figure 6 - Percentage of Progress Notes Entered by Days Following Event

Figure 6 - Percentage of Progress Notes Entered by Days Following Event

### Perceived Usefulness

During the first data collection period, participants were surveyed to evaluate whether using a laptop made any difference in their CPS work. The survey included questions on five areas: timeliness of documentation, ability to work from court, ability to access case information, communication with supervisors, and services provided to clients. Survey respondents were asked to rate the difference on a five-point scale where “1” indicated “Much worse,” “3” represented “About the same,” and “5” was indicative of being “Much better.”

Overall, respondents from Wayne County DSS reported perceived positive impacts on their work resulting from laptop use, shown in Table 3 below. For documentation, 73% of the respondents reported improvements in timeliness of documentation and 91% for improved ability to access case information. Ability to work in court improved for 55%, and 27% reported improvements in ability to communicate with supervisors. Forty-six percent reported improvements in service to clients. None reported a negative impact.

**Table 3 - Perceived Change Timeliness and Work Impacts – Wayne County**

	<b>Much worse(n)</b>	<b>Somewhat worse(n)</b>	<b>About the same(n)</b>	<b>Somewhat better(n)</b>	<b>Much better(n)</b>
Timeliness of documentation	0%(0)	0%(0)	27%(3)	64%(7)	9%(1)
Ability to do work in court	0%(0)	0%(0)	46%(5)	46%(5)	9%(1)
Ability to access case information	0%(0)	0%(0)	9%(1)	36%(4)	55%(6)
Communication with supervisors	0%(0)	0%(0)	73%(8)	27%(3)	0%(0)
Service to clients	0%(0)	0%(0)	55%(6)	46%(5)	0%(0)

The analysis of the first data collection highlighted the lack of reported negative impacts on timeliness and other work activities as somewhat inconsistent with the analysis of the timeliness of progress note entry results obtained from the central database. Thus, the reported positive impacts may be related more to the increased rate of case closing.

In the second data collection period, data gathered from the videoconferences supports the general findings from the first data collection. The majority of the caseworkers present in the videoconference reported a perceived change in the way they conducted their work. A few caseworkers once again commented on how having a laptop has given them freedom to conduct their work wherever they find it necessary; and particularly when they are on-call. Additionally, many caseworkers again indicated that having a laptop has been useful for catching up on their progress notes. As one of the respondents from the first data collection said, “Having a laptop when on-call during the evening and weekends takes away the need to take reports orally. [It] saves a lot of time...being on-call is much easier with a laptop. When at court, I no longer feel like I am standing around, wasting time while waiting for my case to be called. Also, I know that I can type notes whenever I want to.” Similar comments were

conveyed during the second data collection period.

Personal preference was a consistent theme during the first data collection period. For example, some caseworkers expressed a preference for using the laptop at home after normal business hours, while others expressed the preference for using the laptop to enter notes immediately following a visit. Caseworkers interviewed during the second data collection period reported no significant change in the way they communicate with their supervisors. The lack of change in communication patterns with supervisors was consistent with results from the first data collection period. Caseworkers indicated continued reliance on the use of cell phones and in-person meetings to communicate with their supervisors. Regarding work while in the court, more than half of the respondents in the first data collection period indicated an improvement in the ability to work in the court. However, during the second data collection, a few caseworkers reported taking the laptops with them to court and the majority found they could not use the laptop effectively. Therefore, they stopped taking the laptops with them to court. They said there were too many distractions and little or no privacy to work,

Nearly one year after the laptops were deployed, there were mixed responses regarding the effect the laptops had on the quality of service caseworkers provide to their clients. While some caseworkers felt that they still perform the same set of tasks using the laptops, others indicated some improvements, but that was dependent on the particular case they were assigned. Many caseworkers believe using the laptop has made them more efficient in entering their progress notes; and therefore, the use of the laptop has saved them time and energy, which is perceived to be reinvested into serving their clients. One of the interviewed caseworkers commented that the value of the laptop is not necessarily appreciated on a daily basis rather, the true value is its availability in certain critical situations. Finally, caseworkers valued the ability to lookup case histories while they were away from the office without having the need to constantly call a colleague or a supervisor.

## Satisfaction

In the first data collection period, survey respondents reported a high level of satisfaction. The survey data showed that all questioned respondents reported being “Somewhat satisfied” or “Very satisfied” with the use of the laptops in CPS work. While no surveys were administered in the second data collection period, caseworkers in the videoconference reported similar and consistent sentiments regarding their overall satisfaction with the laptops.

Despite the high levels of satisfaction reported in both data collection periods, caseworkers reported issues during the second data collection period that they hoped would have been addressed by then. For example, one of the interviewed caseworkers mentioned having used the laptop from a public library; however, at a later time, the caseworker was told to no longer use the laptop at that location- or any other location in the field. Many caseworkers expressed that they had hoped policies would change, but since the laptops were deployed, there has not been consistent changes in policy regarding use of laptops in the field or from home.

Additionally, caseworkers indicated that management approves compensation for using the laptop after normal work hours only under certain circumstances—such as being substantially behind on progress notes but only as long as they are in the office when using the laptop (which is opposite of the intended purpose of having laptops). Moreover, caseworkers cannot get compensation for time spent on the laptop in the field or at home after normal work hours. Caseworkers feel this contradicts the purpose of the laptop, which is to increase work opportunities outside the office. Caseworkers continue to be compensated for working at home during on-call duty, and when visiting their clients in the field after normal working hours.

During the second data collection period, caseworkers reported several incentives associated with laptop use, including a desire of self satisfaction and a need to reduce work-related stress. Despite not being compensated, virtually all caseworkers reported self satisfaction and the desire to keep up on their progress notes as the main drivers behind using the laptops from home. Furthermore, caseworkers reported high satisfaction during on-call duty as it allowed them to access in-depth case information relatively quickly and without having to take extensive hand-written notes from the Statewide Central Registry (the state’s child abuse hotline).

Finally, almost all caseworkers interviewed expressed the desire and need for county-issued cellular telephones and stated they were a necessity of their job.

---

(2) The initial assessment was based on 40 days of CONNECTIONS data. The findings revealed: (1) the rate of timely closing of cases (in 60 days or less) increased during the test period, up from 79 in the pre-test period to 90 during the test period; (2) the percentage of timely closing of cases (in 60 days or less) out of total cases also decreased from 68% to 64% during the test period; and (3) there was an overall 20% increase in cases closed (cases closed under 60 days as well as over 60 days) during the test period, given that the available cases decreased (around 6%).

(3) The initial assessment was based on 40 days of CONNECTIONS. The findings revealed that by the fifth day, over 76% of all notes were entered for the pre-test period, compared to just over 53% for the test period.