

Purpose

This assessment is intended to help inform decision-making about the use and possible further deployment of wirelessly connected laptop computers for child protective service (CPS) field work. The report covers the pilot of approximately 135 laptops used by child protective workers and supervisors during a 12-week period during July-October 2007. The assessment is part of the New York City Administration for Children's Services (ACS) initiative to test mobile technologies in child protective services, in response to Mayor Bloomberg's "Safeguarding our Children 2006 Action Plan" and the New York State Portable Information Technology Pilot initiative.

ACS's Division of Child Protection (DCP) worked with ACS Management Information Services to develop a pilot test for the use of the laptops by child protective service caseworkers. The Center for Technology in Government (CTG) conducted this assessment under the auspices of the New York State Office of Children and Family Services (OCFS). This report presents the results of an assessment of the technology in the extended pilot project.

The Pilot Test

One hundred and ninety ACS managers, supervisors, and caseworkers volunteered to use the laptops in the pilot test. Of those 190, 135 caseworkers and supervisors from the William Street and Staten Island field offices participated in the assessment. All participants received training prior to deployment and all received the same model and configuration of laptop. Prior to receiving the laptops, the volunteers also received a survey to establish a baseline concerning their attitudes and work practices against which to compare a similar post test survey's results. They did not, however, receive special instructions on how to employ the devices in their work.

Assessment data came from CPS workers and supervisors in workshops, interviews, baseline and follow-up surveys of laptop users, and from the CONNECTIONS system. Entries into the CONNECTIONS database were collected from the twelve week period prior to and during the test period. In addition, the CTG project team participated in meetings and conference calls with ACS and OCFS staff to discuss the deployment and use of the laptops. Taken together, the data provide a detailed picture of how the laptops were used, the attitudes of the users toward this way of working, and evidence of impacts on the productivity of the work done during the test period.

Deploying Mobile Technology

Laptop procurement and deployment for the test period illustrated the complex and challenging nature of enabling mobile technology for CPS work. In order to put the laptops into use, it was necessary to coordinate a diverse mix of activities: hardware and software procurement, device configuring, linking multiple networks across organizations to provide wireless connectivity, preparing training, resolving work practice and policy issues, and resolving a long list of technical problems characteristic of ramp-up processes. Most of the coordination and implementation issues were resolved during the test period, such that the basic functionality of the laptops could be employed in the field. Remaining issues include lack of full wireless access in court facilities and considerable variation in the strength of the wireless signal in some areas, leading to less reliable connection. In addition, some issues concerning policies and supervisory practices for work outside normal hours and locations remain unresolved. Overall, however, the collaboration and lessons learned during the deployment provide a solid foundation for further refinement of practices and policies to exploit the potential of the technology.

Patterns of Use

The primary conclusion from the usage data is that the field workers put the laptops to use in a variety of ways that reflect both their work situation and the capabilities of the devices. The dominant place of use was at home; over 80% of the users in both field offices reported using the laptop at home, on average over four hours per week. The interviews and workshops provided some explanation of this pattern, namely that there are limited places and opportunities to use the laptops in the field, due to limited or slow connections, lack of privacy, concern for personal safety, and unwillingness to use the device in the presence of clients. Almost all the caseworkers stated that it is not appropriate to use a laptop in client's home when trying to establish a rapport and pay attention to the surroundings. Over 40% reported two plus hours on average of both field and court use, with somewhat high levels of field use in Staten Island, possibly due in part to greater use of personal cars for transport there.

Though they could use the laptops in court, testers reported connectivity problems in that environment. Over 75% of the Staten Island field office group reported connectivity problems in court, compared to less than 40% from Manhattan.

The testers found many uses for the devices in addition to documentation of cases. Overall, over 70% report using the laptop to access information while in the field at least once a week. Other uses included email and map directions at least once a day or more. The use of laptops reduced travel to the office from the field as well, with over 40% reporting not having to return to the office to access information during the test, compared to 15% before. By contrast, work during commuting decreased during the test compared to the prior period, perhaps due to more work done at home.

Productivity Gains

Evidence of productivity gains came from the impressions of the users and from work recorded in the CONNECTIONS system. About two-thirds of participants reported improved timeliness of documentation using the laptop, although prior to laptop use, over 50% of the caseworkers were documenting events within the same day. In addition, over three-fourths reported improved ability to access case information from the field with the laptop, but they did not report highly improved communication with supervisors or service to clients. Some participants during workshops expressed that they did receive new case assignments while in the field by checking their email and CONNECTIONS accounts.

Work records from the CONNECTIONS system reveal a mixed pattern. The pace of case closings increased moderately with laptop use; the number closed in the first seven days increased from 10 to 20%, with that differential remaining for the full 60-day period for closing cases. The number of cases closed within the first 60 days increased moderately in both offices—between five and seven percent. The volume of other work—progress note entry and safety assessments—remained unchanged.

Using the laptops had an overall positive impact on satisfaction and attitudes toward the work. Over 65% of the users reported being satisfied with the laptops, with slightly higher proportions in Manhattan. Perceptions of having adequate resources and feeling valued increased as well. The proportion of users willing to recommend laptop use to a colleague were very high (77 % of testers). Over half of the users reported lowered job stress with laptop use as well.
