

## **DFPS APS In-Home Mobile Technology Evaluation**

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**DFPS Performance Management Group**

Maria Cervania  
Michael Tecci

**Adult Protective Services**

Nora Douglas  
Cody Brady

Olivia Derr

**Management Reporting and Statistics**

Brad Pierson  
Cindy Cannon

# DFPS APS In-Home Mobile Technology Evaluation

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**Executive Summary**

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## DFPS APS In-Home Mobile Technology Evaluation

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### Executive Summary

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The Texas Governor Rick Perry issued Executive Order RP 33 on April 14, 2004 instructing the Health and Human Services Commission (HHSC) to oversee a systemic reform of the Adult Protective Services (APS) program. The Governor's Office published a report in November of 2004 recommending 252 corrective actions intended to bring about system wide program reform. A series of corrective actions outlined in the Governor's report directed APS to use mobile technology to increase caseworker efficiency, and improve client outcomes through effective assessment and documentation.

In February of 2005, APS staff began working with contractors to design the Mobile Protective Services software that would be used on the Tablet PC. At the same time, Senate Bill 6, passed into law after the 79<sup>th</sup> Legislative session, reinforced the reform agenda set forth by Governor Perry. The 79<sup>th</sup> Legislature added specific statutory language in Senate Bill 6, Section 1.80, mandating that the department implement a mobile technology project, including online transcription services designed to: increase caseworker access to department policy and family case history; facilitate communication between caseworkers and supervisors; allow timely and accurate data entry; and reduce backlogged investigations.<sup>1</sup>

In response to the Governor's Executive Order and legislative mandate, DFPS and APS responded by developing the APS Mobile Technology Reform Initiative.

### Background

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The Adult Protective Services (APS) program is the first Texas Health and Human Services organization to complete a large-scale mobile computing initiative. Nationally, APS is the first Adult Protective program to incorporate Tablet PCs into the day-to-day aspects of casework. The purpose of the APS Mobile Technology Initiative is to provide greater efficiency and flexibility to caseworkers, allowing case documentation and information access from the field.

To accomplish this, a mobile version of the case management system (IMPACT) was developed to allow access to key case details without relying on a wireless connection. This application, Mobile Protective Services (MPS), allows caseworkers to "check out" cases they need to use in the field, and then, "check in" all information they have documented at a later time. All Tablet PCs also are equipped with a wireless card intended for intermittent network access from the field.

At this time, the distribution of all APS caseworker Tablet PCs has been completed. Currently, 579 In-Home caseworkers have received their Tablet PCs since the initial APS In-Home Tablet PC Implementation in September 2005. Even though the implementation process is complete, the project is far from over.

The technologies being allocated (e.g. Tablet PCs, XP Operating System, Wireless Broadband cards) are all very new and cutting edge tools. DFPS is continuing to learn how best to support these users through timely resolution of problems and on-going communication and training needs. The APS Assistant Commissioner, Debra Wanser, has explained this type of major change as, "a process, not an event". The results in this report represent where DFPS and APS are today, and show a path towards a new approach to casework when these tools are fully maximized.

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<sup>1</sup> Texas Legislature, Senate Bill 6, 79<sup>th</sup> Legislative Session (Regular).

## Purpose

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The purpose of the DFPS In-Home APS Mobile Technology Evaluation is to investigate six research questions:

- How is APS In-Home staff using the Mobile Technology?
- As a result of the Mobile Technology Implementation, is the APS In-Home program realizing efficiencies?
- Has Mobile Technology maintained or improved quality of documentation?
- Does Mobile Technology have an impact on APS Performance Metrics?
- What impact has Mobile Technology implementation had on APS In-Home client outcomes?
- How have work processes changed for the APS In-Home program since the implementation of Mobile Technology?

At the conclusion of the DFPS In-Home APS Mobile Technology Evaluation, the document intends to enable external and internal DFPS policy makers and Program Managers to demonstrate performance; discover where improvements could be made to design or delivery methods; identify good practice and lessons for the future, and above all, be a positive learning experience. The DFPS In-Home APS Mobile Technology Evaluation findings are expected to impact on APS policy decisions and enhance the implementation of Mobile Technology.

## Specific Findings

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### Examine Mobile Technology Usage

#### Patterns in Mobile Technology Usage

(From the results of the APS In-Home Tablet PC User Surveys)

- The percentage of those who use the Tablet PC outside of the office “every day” increased, and those who use it “a few times a month” or “never” decreased between the first and second survey.
- APS In-Home Staff said that they use the Tablet PC in their “home” and in the “car” most often.
- More than half of respondents are using the Tablet PC in the client’s home.
- Respondents who used the Tablet PC “every day” or “a couple of times a week” were more likely to take the Tablet PC into a “client’s home”.
- Workers who had worked for APS less than one year were significantly more likely to take the PC into a client’s home.
- “Every day” were significantly more likely to use the Tablet PC in a “client’s home” than those who used it “a couple of times a week”, “a few times a week” or “never”. (This indicated that frequent usage outside the office increased the likelihood that a caseworker will use the mobile technologies in a “client’s home”).
- Of those respondents who do not use (or rarely use) the Tablet PC in the client’s home or other investigative location, they commented that they had issues with building rapport with clients, having clients finding the Tablet PC distracting, and not having a place to use the Tablet PC in some locations. In addition, respondents feel uncomfortable taking the Tablet PC into unknown situations, using the equipment with clients with mental illness or bringing it out in unsafe neighborhoods.
- 53% of respondents to the second survey reported that when they used their Tablet PC in the client's home or other investigative location, the reactions received were “positive” or “no reaction”.
- 13% reported when using the Tablet PC in a client’s home or other investigative location, the reactions received were “negative”.

### **Wireless Connectivity**

(From the results of the APS In-Home Tablet PC User Surveys)

- Respondents to both surveys most often identified “Wireless Connectivity” as the biggest barrier to productive use of mobile technologies.
- Those who have worked for APS less than one year were significantly more likely to report that they use e-mail and Internet when connected wirelessly. They also were more likely to report that they access the IMPACT applications briefly.
- Those who used the Tablet PC outside the office “every day” were significantly more likely to use the PC to perform MPS synchronizations and check cases in and out with from IMPACT to MPS.
- Those who reported that they “never” use the PC outside of the office were significantly less likely to report working in IMPACT by entering information.
- 53 percent of respondents during Survey 1 report they “Agree” or “Strongly Agree” that they are satisfied with their ability to use wireless from home as compared to 56 percent during Survey 2.
- 26 percent of respondents during Survey 1 and 25 percent during Survey 2 “Disagreed” or “Strongly Disagreed” that they were satisfied with the wireless service from their homes. This is significant given that APS is moving towards a more mobile environment.
- Workers who are able to use wireless state that it enables them to access cases, information, create maps and connect with other workers and their supervisors. Wireless has increased casework flexibility and has improved the quality of their casework and documentation. Those who have access to wireless express that it aids in effective fieldwork.
- Many workers do not have access to wireless in rural areas, have sporadic wireless connections or the connection is too slow for many. Respondents report losing data when the connection goes down, and other technical issues including the battery life, and the time it takes to get the equipment fixed.
- Several workers indicate that wireless problems reduce casework efficiency and productivity.

### **Mobile Protection Services**

(From the results of the APS In-Home Tablet PC User Surveys)

- 88% of respondents to the second survey reported using MPS application to various degrees.
- 12% report not using the MPS application.
- Caseworkers had three main suggestions to expand the functionality of MPS including allowing workers to enter all of their contacts, complete the Allegation window/Investigation Conclusion windows, and access the “Persons” list.

### **Technical Support**

- In the second survey, approximately 50 percent of respondents reported that the Customer Support Center and Help Desk provided good service.
- Approximately 30 percent of respondents reported moderate service quality (Survey Period 2).

### **SpeakWrite Services**

- There was a slight increase in “Total Number Staff Using SpeakWrite” and “Total SpeakWrite Words Dictated per Call” from FY 2005 and FY 2006.
- Staff reported 60% using the SpeakWrite, and 40% not utilizing the service.
- When asked about suggestions to make the use of the SpeakWrite service more valuable, the majority of respondents did not have any suggestions and reported that SpeakWrite is a valuable tool.
- There is a strong desire to maintain this service as a complement to the Tablet PCs.

## Measure Changes in Efficiencies

### Timeliness of Data Entry – 24 Hour Contacts

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter data for FY 2005 has a wider range compared to FY 2006:
  - In FY 2005, the days to record 24 Hour Contacts ranged from a low of 7.9 to 30.7 days.
  - In FY 2006, the days to record 24 Hour Contacts stayed between 12.7 and 16.9 days.
- The mean days to record 24 Hour Contacts:
  - 18.6 days – FY 2005
  - 15.3 days – FY 2006

### Timeliness of Data Entry – Face to Face Contacts

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter data for FY 2005 has a wider range compared to FY 2006:
  - In FY 2005, the days to record Face-to-Face Contacts ranged from a low of 13.5 to 46.6 days.
  - In FY 2006, the days to record 24 Hour Contacts stayed between 20.6 and 25.9 days
- The mean days to record Face-to-Face Contacts:
  - 30.6 days – FY 2005
  - 22.9 days – FY 2006

### Average Number of Days Between Intake to Completion

- For FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters, the average days increased:
  - 33.1 days – FY 2004
  - 40.9 days – FY 2005
  - 49.1 days – FY 2006

### Efficiency of Casework Due to Tablet PC

(From the results of the APS In-Home Tablet PC User Surveys)

- In Survey Period 1, respondents who used the Tablet PC outside of the office “every day” were more likely to report some or significant time savings in completion of documentation than were those who reported using the PC “a couple of times a week”, “a few times a month” or “never”.
- In Survey Period 2, respondents to the second survey who reported using the Tablet PC “every day” were significantly more likely to report some time savings than those who did not.
- For both of the surveys, those who had worked for APS for less than one year were more likely to report some time savings.
- However, there was not a significant difference between less tenured and more tenured workers for Survey Period 2.

### Same Day Documentation

- 84 percent of respondents to the second survey reported the ability to complete same day documentation for key case information using their Tablet PCs.
- The case actions identified as most often documented on the same day were:
  - 67% - Case Initiation
  - 61% - Face-to-Face Contacts
- The CARE Tool was designed specifically for use in the client’s home and in the field. 46% of the respondents reported that the CARE Tool was completed on the same day.
- When asked what barriers respondents experienced regarding same day documentation, the three main reasons for not documenting the same day were the time it takes to document, high caseloads, and functionality issues - particularly wireless connectivity.

### Assess Documentation Quality Changes

- Between the first and second survey, there was an increase in the percentage of respondents who reported “some” or “significant” improvement in the quality of their casework because of the Tablet PCs.
- In Survey 1, respondents who used the Tablet PC outside of the office “every day” were more likely to report some improvement in casework quality than those who reported using the PC “a few times a month” or “never”.
- In Survey 2, those who used the Tablet PC “every day” were significantly more likely to report some improvement in casework quality than those who reported using the PC “a few times a month” or “never”.
- For both of the surveys, those who had worked for APS for less than one year were significantly more likely to report some improvement in casework quality.

### Identify Mobile Technology Impact on APS Performance as Measured by Established Metrics

- Overall, for 3<sup>rd</sup> and 4<sup>th</sup> quarter data, FY 2006 has slightly better performance than FY 2005.
  - APS In-Home caseworkers had a mean of 96.1% of 24 Hour Contacts Met in FY 2005 compared to 96.7% in FY 2006.
  - The difference in mean percent of 24-hour contacts met between fiscal years is statistically significant<sup>2</sup>.
- For 3<sup>rd</sup> and 4<sup>th</sup> quarter data, FY 2006 has better performance than FY 2005:
  - APS In-Home caseworkers had a mean of 89.2% of Initial Attempted or Actual Face-to-Face Contacts Met in FY 2005 compared to 90.6% in FY 2006.
  - The difference in the mean percent of Initial Attempted or Actual Face-to-Face contacts made between fiscal years is statistically significant<sup>3</sup>.

### Analyze Changes in Client Outcomes

- Currently, no Quantitative Client Outcomes Metrics have been established for the APS In-Home Program.
- As for Qualitative data, the APS Quality Assurance Specialists began analyzing APS In-Home cases in FY 2006. There is no Fiscal Year comparative information available for this data source.
- APS will determine which client outcomes need to be measured in order to better link outcomes with mobile technology usage.

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<sup>2</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

<sup>3</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

## Compare How Work Processes Changed

### Overtime

- “Overtime Balance (in Hours)” for APS Caseworkers by Month for FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>4</sup>:
  - 2,193 hours – FY 2004
  - 2,957 hours – FY 2005
  - 1,848 hours – FY 2006
  - There was a significant difference between the time periods<sup>5</sup>.
- “Average Overtime Balance (in Hours)” for APS Caseworkers by Month for FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>6</sup>:
  - 13.6 hours – FY 2004
  - 16.1 hours – FY 2005
  - 14.2 hours – FY 2006
  - There was a significant difference between the time periods<sup>7</sup>.

### Mobile Caseworker

(From the results of the APS In-Home Tablet PC User Surveys)

- 28 percent of respondents to the second survey reported that the degree in which they considered themselves a “mobile caseworker” “significant” and “complete”.
- 46 percent indicated that were “mixed” in their mobile usage.
- 25 percent reported that they still had a “significant or complete reliance on using my computer in an office environment”.

### “What do you like most about performing casework in a more mobile environment?”

(From the results of the APS In-Home Tablet PC User Surveys)

The 324 respondents’ answers fell into four main themes:

- Flexibility
- Timeliness of Documentation/Casework;
- Quality of Documentation/Casework; and
- Increased Efficiency and Productivity.

### “What do you like least about performing casework in a more mobile environment?”

(From the results of the APS In-Home Tablet PC User Surveys)

Nearly one third of the respondents of the 324 survey respondents said “Nothing/NA” or that they like being mobile. Other respondents reported what they liked least include five major themes including:

- Equipment Hardware/Software,
- Equipment Portability/Management,
- Safety,
- Culture Change/Expectations; and
- Client Rapport.

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<sup>4</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>5</sup> SPSS Analysis of Variance:  $p \leq .05$

<sup>6</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>7</sup> SPSS Analysis of Variance:  $p \leq .05$

## Recommendations

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Based on the APS In-Home Mobile Technology Evaluation findings, the following recommendations are proposed to enhance the utilization of Mobile Technology, guide APS policy decisions and improve APS In-Home direct delivery services:

- Analyze usage of Mobile Technology, work processes and working conditions in order to establish performance expectations and benchmarks for Tablet PC Usage and data entry timeliness.
- Research usability, environmental and technical resources that could expand solution and/or address barriers (e.g., finger print reader, natural handwriting directly into applications).
- Study work processes and working conditions in order to establish guidelines for when workers should and should not use the Tablet PC and accessories in client or collateral interviews outside a DFPS office.
- Make necessary policy changes in the APS In-Home Program to enhance and support the use of the Mobile Technology solution.
- Include Mobile Technology performance expectations in all recruitment materials and worker job interviews.
- Develop and disseminate Best Practices for Mobile Technology.
- Incorporate best practices into guidelines for supervisors' use in instilling sound workload management strategies in new workers.
- Examine performance of workers using MPS frequently and determine if there is any significant improvement over workers not using this application.
- Expand MPS functionality so that workers can complete more of the case information when using the MPS format.
- Make changes in IMPACT to increase efficiency of use during client and collateral interviews (ex: drop down boxes for the CARE tool).
- Explore alternative voice recognition software to determine if it can be made more functional. Continue SpeakWrite services to help workers complete their documentation timely in the interim.
- Improve user support efforts to ensure staff has operational equipment in a timely manner.
- Redesign worker training to address the complete role of mobile casework, including a greater focus on development of skills for use of mobile technology in client and collateral interviews.
- Provide training to supervisors to increase supervisor knowledge of mobile technology.
- Identify resources to provide on-going training, skills development and coaching to tenured workers.
- Address issues relating of wireless connectivity and speed by exploring further broadband technology/cards so that rural workers be connect wirelessly.
- Identifiers should be added to the Tablet PC survey so that the relationship between mobile technology usage, overtime balances, travel expenditures, and process compliance can be explored. However, data should only be reported in the aggregate.
- The Mobile Technology Evaluation should be conducted annually, and include data that was not available during the first evaluation.
- Data sources from the first evaluation need to be reviewed and reports developed to increase the data quality and reportability.
- Possible confounding or interaction variables should be determined by stratified or logistic regression analysis to isolate direct positive or negative effects of the implementation of Mobile Technology.

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**Introduction**

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## Introduction

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The Texas Governor Rick Perry issued Executive Order RP 33 on April 14, 2004 instructing the Health and Human Services Commission (HHSC) to oversee a systemic reform of the Adult Protective Services (APS) program. The Governor's Office published a report in November of 2004 recommending 252 corrective actions intended to bring about system wide program reform. The recommendations were comprehensive and client-focused in nature.

A series of corrective actions outlined in the Governor's report directed APS to use mobile technology to increase caseworker efficiency, and improve client outcomes through effective assessment and documentation. In February of 2005, APS staff began working with contractors to design the Mobile Protective Services software that would be used on the Tablet PC.

Senate Bill 6, passed into law after the 79<sup>th</sup> Legislative session, reinforced the reform agenda set forth by Governor Perry. The 79<sup>th</sup> Legislature added specific statutory language in Senate Bill 6, Section 1.80, mandating that the department implement the following technology projects:

- A mobile technology project, including online transcription services designed to:
  - Increase caseworker access to department policy and family case history;
  - Facilitate communication between caseworkers and supervisors;
  - Allow timely and accurate data entry; and
  - Reduce backlogged investigations.<sup>8</sup>

In response to the Governor's Executive Order and legislative mandate, DFPS and APS responded by developing the APS Mobile Technology Reform Initiative.

The purpose of the initiative was to provide APS In-Home and MH and MR Investigation (Facility) caseworkers greater efficiency through mobility, and to enhance the web-based Information Management Protecting Adults and Children in Texas (IMPACT) system.

The implementation of mobile technology through the usage of Mobile Technology has impacted how APS In-Home and Facility caseworkers perform their jobs in a variety of ways. In order to utilize this new technology to its fullest extent and truly transform APS field staff into "Mobile Caseworkers," it is important to measure the usage and application of the Tablet PC in the day-to-day life of an APS In-Home and Facility caseworker. The changes that result from using Tablet PCs are expected to improve internal agency staff efficiencies and ultimately help clients.

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<sup>8</sup> Texas Legislature, Senate Bill 6, 79<sup>th</sup> Legislative Session (Regular).

## Background

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The Adult Protective Services (APS) program is the first Texas Health and Human Services organization to complete a large-scale mobile computing initiative. Nationally, APS is the first Adult Protective program to incorporate Tablet PCs into the day-to-day aspects of casework. The purpose of the APS Mobile Technology Initiative is to provide greater efficiency and flexibility to caseworkers, allowing case documentation and information access from the field.

To accomplish this, a mobile version of the case management system (IMPACT) was developed to allow access to key case details without relying on a wireless connection. This application, Mobile Protective Services (MPS), allows caseworkers to “check out” cases they need to use in the field, and then “check in” all information they have documented at a later time. All Tablet PCs are also equipped with a wireless card intended for intermittent network access from the field.

At this time, the distribution of all APS caseworker Tablet PCs has been completed. Currently, 579 In-Home caseworkers have received their Tablet PCs since the initial APS In-Home Tablet PC Implementation in September 2005. Even though the implementation process is complete, the project is far from over.

The technologies being allocated (e.g. Tablet PCs, XP Operating System, Wireless Broadband cards) are all very new and cutting edge tools. DFPS is continuing to learn how best to support these users through timely resolution of problems and on-going communication and training needs. The APS Assistant Commissioner, Debra Wanser, has explained this type of major change as, “a process, not an event”. The results in this report represent where DFPS and APS are today, and show a path towards a new approach to work when these new tools are fully maximized.

## Purpose

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The purpose of the DFPS In-Home APS Mobile Technology Evaluation is to:

- Examine Mobile Technology Usage;
- Measure Changes in Efficiencies;
- Assess Documentation Quality Changes;
- Identify Mobile Technology Impact on APS Performance as Measured by Established Metrics;
- Analyze Changes in Client Outcomes; and
- Compare How Work Processes Changed.

At the conclusion of the DFPS In-Home APS Mobile Technology Evaluation, this document intends to enable external and internal DFPS policy makers and Program Managers to demonstrate performance; discover where improvements could be made to design or delivery methods; identify good practice and lessons for the future, and above all, be a positive learning experience. The DFPS In-Home APS Mobile Technology Evaluation findings are expected to impact on APS policy decisions and enhance the implementation of Mobile Technology.

## Limitations

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During the Mobile Technology Implementation Phase (3<sup>rd</sup> Quarter Fiscal Year 2005), some of the survey responses may have been impacted due to the short time frame in which users had their Tablet PCs, and the complex nature of the Tablet PC functionality. However, the conclusion of the APS Mobile Technology Phase II (Full Caseworker Distribution) Preliminary Assessment Report, which is referenced in the **Qualitative Analysis** of the evaluation, includes recommendations to address all areas of concern.

At the same time as the mobile technology deployment, agency changes were instituted during the overall APS Renewal, which included, but were not limited to, improvements in Training, Client Outcomes, Staffing, Community Engagement, Caseload Management, and Performance Management. These elements limit the DFPS' ability to directly attribute an improvement in practice to the implementation of Mobile Technology.

Also, data provided in this report can be influenced by seasonal changes in intake rates and therefore any dips or spikes in intake rates may not have been influenced by changes in mobile technology.

## Audiences

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The DFPS APS In-Home Mobile Technology Evaluation will be available to all Texas Department of Family and Protective Services staff, division administrators, program administrators, and supervisors, external organizations and groups, other state and federal agencies, and the general public.

## Questions

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**The purpose of this report is to answer the following six questions:**

- How is APS In-Home staff using the Mobile Technology?
- As a result of the Mobile Technology Implementation, is the APS In-Home program realizing efficiencies?
- Has Mobile Technology maintained or improved quality of documentation?
- Does Mobile Technology have an impact on APS Performance Metrics?
- What impact has Mobile Technology implementation had on APS In-Home client outcomes?
- How have work processes changed for the APS In-Home program since the implementation of Mobile Technology?

## Study Population

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The DFPS APS In-Home Mobile Technology Evaluation (including both the **Quantitative** and **Qualitative Analysis**) included all APS In-Home caseworkers employed “Prior”, during and “Post” Mobile Technology Implementation Phase. The above quarters were analyzed to compare data and information associated with Mobile Technology when minimal or no influence on the study population, initial implementation, and after a year of utilizing the resources in direct service delivery.

## Reporting Periods

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Prior to Mobile Technology Implementation	3 <sup>rd</sup> and 4 <sup>th</sup> Quarters of Fiscal Year 2004
Mobile Technology Implementation Phase	3 <sup>rd</sup> and 4 <sup>th</sup> Quarters of Fiscal Year 2005
Mobile Technology Post Implementation Phase	3 <sup>rd</sup> and 4 <sup>th</sup> Quarters of Fiscal Year 2006

## Data Sources

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### **Examination of Mobile Technology Usage**

GOAL: The evaluation assesses how APS In-Home staff is using the Mobile Technology.

#### DATA SOURCES:

- APS Tablet PC User Survey
- Transcription Services (SpeakWrite) Data

#### LIMITATIONS

Data was not available for all the study periods:

- APS Tablet PC User Survey  
(Implementation (January 2006), Post-Implementation Data (December 2006))
- Transcription Services (SpeakWrite) Data  
(Implementation (FY 2005) and Post-Implementation (FY 2006) Data)

### **Measurement of Changes in Efficiencies**

GOAL: The evaluation assesses if the use of the Mobile Technology resulted in maintained or improved efficiency of documentation for APS In-Home staff.

#### DATA SOURCES:

- Quantitative Data from IMPACT System
- APS Tablet PC User Survey

#### LIMITATIONS:

- APS Tablet PC User Survey  
(Implementation (January 2006), Post-Implementation Data (December 2006))

### **Assessment of Documentation Quality Changes**

GOAL: The evaluation assesses if use of the Mobile Technology results in maintained or improved quality of documentation for APS In-Home staff.

#### DATA SOURCES:

- APS Tablet PC User Survey

#### LIMITATIONS:

- APS Tablet PC User Survey  
(Implementation (January 2006), Post-Implementation Data (December 2006))

### **Identification of Best Practices to Inform Performance Management**

GOAL: The evaluation assesses the impact Mobile Technology implementation has had on policy and standards-related performance by APS In-Home Caseworkers.

#### DATA SOURCES:

- Quantitative Data from IMPACT System

### **Analysis of Changes in Client Outcomes**

GOAL: The evaluation assesses the impact Mobile Technology implementation has had on APS In-Home client outcomes.

#### DATA SOURCES:

- Quantitative Data from IMPACT System

#### LIMITATIONS:

- Quantitative Client Outcome Data – In Development

### **Comparison of How Work Processes Changed**

GOAL: The evaluation assesses the impact Mobile Technology implementation has had on the composition of APS In-Home work.

#### DATA SOURCES:

- Overtime Hours
- APS Tablet PC User Survey

#### LIMITATIONS:

- Overtime Hours  
(Implementation and Post-Implementation Data)
- APS User Survey  
(Implementation (January 2006), Post-Implementation Data (December 2006))

### **Possible Confounding or Interaction Variables**

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During the Mobile Technology Implementation Phase (3<sup>rd</sup> Quarter Fiscal Year 2005), DFPS and APS In-Home Program changes were instituted during overall APS Renewal. These possible confounding or interaction variables limit the DFPS' ability to directly relate an improvement in practice to the implementation of Mobile Technology. The elements include, but are not limited to:

- Implementation of CARE Tool
- Caseloads
- Workload
- Staff Tenure
- Turnover
- Culture Change
- Performance Management

## Methods

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The DFPS Performance Management Group coordinated and managed the APS In-Home Mobile Technology Evaluation Project.

The evaluation targets on the six data sources to provide principal indicators used to measure the effects and impact of the APS In-Home Mobile Technology Implementation. The targeted data sources were:

- Quantitative Data from IMPACT System;
- APS Tablet PC User Survey;
- Transcription Services (SpeakWrite) Data;
- Help Desk Calls;
- Overtime Hours; and
- Financial Data (Travel Expense).

### Quantitative Data from IMPACT System

#### Measurement of Changes in Efficiencies

Quantitative data from the IMPACT System was used to assess if the use of the Mobile Technology resulted in maintained or improved efficiency of documentation for APS In-Home staff. Specifically:

- “Average Number of Days Recorded in IMPACT” for 24 Hour Contacts;
- “Average Number of Days Recorded in IMPACT” for Initial Attempted or Actual Face-to-Face Contacts; and
- “Average Number of Days Between Intake and Completion” of an APS In-Home Investigation was analyzed for FY 2004, FY 2005 and FY 2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters.

An Analysis of Variance (ANOVA) was performed to test for significant differences among the three fiscal years for each indicator.

#### Identification of Best Practices to Inform Performance Management

Quantitative data from the IMPACT System was used to assess the impact Mobile Technology implementation has had on policy and standards-related performance by APS In-Home Caseworkers. Specifically:

- “Percent of 24 Hour Contacts Met”; and
- “Percent of Initial Attempted or Actual Face-to-Face Contacts Met” was analyzed for FY 2005 and FY 2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters.

For each indicator, a t-test analysis assessed whether the mean percent of FY 2005 and FY 2006 were statistically different from each other.

## **APS Tablet PC User Survey**

An Analysis of Variance (ANOVA) was used to analyze data from the following sections of the Tablet PC User Survey. An ANOVA tests for significant differences between groups of Mobile Technology users for different items within the survey. For example, ANOVAs were used to determine if there were differences in survey responses between groups who used the Tablet PC “more or less often” (i.e. frequency of Tablet PC usage outside the office) or for APS In-Home staff who had been with the agency for “more or less than one year” (e.g. tenure).

### **Examination of Mobile Technology Usage**

Results from the APS Tablet PC User Survey were used to assess how APS In-Home staff is using the Mobile Technology.

### **Measurement of Changes in Efficiencies**

Results from the APS Tablet PC User Survey were used to assess if the use of the Mobile Technology resulted in maintained or improved efficiency of documentation for APS In-Home staff.

### **Assessment of Documentation Quality Changes**

Results from the APS Tablet PC User Survey were used to assess if use of the Mobile Technology results in maintained or improved quality of documentation for APS In-Home staff.

### **Comparison of How Work Processes Changed**

Results from the APS Tablet PC User Survey were used to assess the impact Mobile Technology implementation has had on the composition of APS In-Home work.

## **Transcription Services (SpeakWrite) Data**

### **Examination of Mobile Technology Usage**

Transcription Services (SpeakWrite) Data was used to assess how APS In-Home staff was using the Mobile Technology. Frequencies were analyzed for FY 2005 and FY 2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters.

## **Help Desk Calls**

### **Examination of Mobile Technology Usage**

Data from Help Desk Tickets was used to assess how APS In-Home staff was using the Mobile Technology. Frequencies and rates were analyzed for FY 2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters.

## **Overtime Hours**

### **Comparison of How Work Processes Changed**

Overtime Hours Data was used to assess the impact Mobile Technology implementation has had on the composition of APS In-Home work.

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**Question 1: How is APS staff using the Mobile Technology?**

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## Data Analysis

### Question 1: How is APS staff using the Mobile Technology?

#### Examination of Mobile Technology Usage

This section of the evaluation examines Mobile Technology usage patterns of the APS In-Home Staff. In addition, two support resources: Technical Support (e.g. Customer Support Center Help Desk, Regional IT staff and their APS Skilled Users) and SpeakWrite were also studied to look at how these services influenced the utilization of Mobile Technology.

#### APS Tablet PC User Survey

APS has conducted two surveys of caseworkers using the Tablet PCs in a mobile environment. The first survey was sent out in December 2005 (i.e. after the initial Tablet PCs were distributed). The second survey was sent to all caseworkers in November 2006. Over 80% (324 responses) of the 398 APS In-Home caseworkers with Tablet PCs responded to the APS Tablet PC User Survey during Study Period 2 (December 2006). This response is even greater than the previous survey conducted during Study Period 1 (January 2006) (70% response) shortly after the full distribution of mobile technologies. APS In-Home Staff continue to have a high degree of interest and strong input regarding the benefits and challenges of mobile technology. The complete listing of survey questions and quantitative responses are included in Appendix A.<sup>9</sup>

#### Responses to Mobile Technology Usage Section of the Survey

The Mobile Technology Usage section of the survey asked respondents about their overall satisfaction and barriers using the Tablet PC, their common usage patterns, and any client experiences associated with the technology. Specific questions regarding using the Tablet PC in the client's home or another investigative location were asked in this section. The previous years' survey did not ask this specifically.<sup>10</sup>

Tables 1 and 2 represents the changes that occurred between the Survey Periods 1 and 2.

Table 1: APS Tablet PC User Survey Quantitative Questions	January 2006 (Survey 1) n=264*	December 2006 (Survey 2) n=324*	% Change
<b>How often do you use your Tablet PC outside of a DFPS office?</b>			
Use the Tablet PC outside of the office <i>everyday</i>	38%	52%	↑
Use the Tablet PC outside of the office only <i>a few times a month</i> or <i>never</i>	25%	15%	↓
<b>Where do you use your Tablet PC outside of a DFPS office?</b> (Check all that apply.)			
Home	88%	86%	↓
Car	71%	80%	↑
Client's Home	47%	57%	↑
Non-State Location in the Field	17%	28%	↑
State Facilities	6%	8%	↑

<sup>9</sup> APS Tablet PC User Surveys, January and December 2006.

<sup>10</sup> APS Tablet PC User Surveys, January and December 2006.

\* The percentages for the survey response will not total to 100%.

\* The percentages for the survey response will not total to 100%.

**Highlights of Table 1:**

- The percentage of those who use the Tablet PC outside of the office “every day” increased between the first and second survey (i.e. 38% to 52%).
- The percentage of those who use it “a few times a month” or “never” decreased (i.e. 25% to 15%).
- Respondents indicated that they use the Tablet PC in their “home” and in the “car” most often (86% and 80%, respectively).
- More than half of respondents (e.g. 57%) are using the PC in the client’s home.

<b>Table 2: APS Tablet PC User Survey Quantitative Questions</b>	<b>January 2006 (Survey 1) n=264*</b>	<b>December 2006 (Survey 2) n=324*</b>	<b>% Change</b>
<b>What is the biggest barrier you have experienced to productive use of the Tablet PC? (Check all that apply.)</b>			
MPS application pages and information	25%	18%	↓
Ability to synchronize information from MPS to IMPACT	22%	12%	↓
Tablet PC hardware problems	29%	31%	↑
Understanding how to use the Tablet PC device (e.g., digital pen, software, portable keyboard)	8%	7%	↓
Wireless connectivity	63%	58%	↓
None	11%	13%	↑

**Highlights of Table 2:**

- Respondents to both surveys most often identified “Wireless Connectivity” as the biggest barrier to productive use of mobile technologies.
- Between the Survey Periods 1 and 2, there were slight decreases in the percentage for
  - MPS
  - Synchronization
  - User Understanding
  - Wireless Connectivity

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, the barriers to productive use of the Tablet PC, and the likeliness of taking the Tablet PC into the client’s home. Respondents who used the Tablet PC:

- “Every day” or “a couple of times a week” were more likely to take the Tablet PC into a “client’s home”. Workers who had worked for APS less than one year were significantly more likely to take the PC into a client’s home.
- “Every day” were significantly more likely to use the Tablet PC in a “client’s home” than those who used it “a couple of times a week”, “a few times a week” or “never”. (This indicated that frequent usage outside the office increased the likelihood that a caseworker will use the mobile technologies in a “client’s home”).
- There were no significant differences between groups when examining frequency of use outside of the office and barriers to Tablet PC usage.
- There were no significant differences between groups for the percentage of the time that caseworkers take the PC into a client’s home and barriers to Tablet PC usage.

\* The percentages for the survey response will not total to 100%.

\* The percentages for the survey response will not total to 100%.

**New Questions –** The following questions were only asked during Survey Period 2. The responses are included in this document to establish a baseline for subsequent evaluations.

Tables 3 through 6 represents the responses received during the Survey Period 2.

<b>Table 3: APS Tablet PC User Survey Quantitative Questions</b>	<b>December 2006 (Survey 2) n=324*</b>
<b>How often do you take the Tablet PC into a client’s home or another investigative location?</b>	
0-25% of the time	43%
25-50% of the time	18%
50-75% of the time	15%
75-100% of the time	24%

**Highlights of Table 3:**

- 39 percent of respondents to the second survey reported that they use the Tablet PC in a client’s home or other investigative location fifty percent of the time or more.
- 43 percent report using the Tablet PC in a client’s home or other investigative location 0-25% of the time.

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\* The percentages for the survey response will not total to 100%.

**Table 4: APS Tablet PC User Survey**  
**Qualitative Questions**  
December 2006 (Survey 2)

**If you do not use (or rarely use) your Tablet PC in the client's home or other investigative location, please describe why not.**

Respondents commented that they had issues with building rapport with clients, having clients finding the tablet PC distracting and not having a place to use the tablet in some locations.

“It is difficult to make eye contact with someone while using the tablet and establishing rapport is critical in our line of work. More time is spent documenting in the tablet than is spent focusing on the client.”

“Distracts clients...they keep asking what I am doing.”

“Creates problems with rapport building with clients. Safety is an issue as well.”

“...We sometimes have dogs and cats all around the home. Sometimes there is no where to really even stand...”

In addition, respondents feel uncomfortable taking the Tablet PC into unknown situations, using the equipment with clients with mental illness or bringing it out in unsafe neighborhoods. Some examples of comments are:

“The neighborhoods I am usually in have high crime rates and I do not feel safe carrying it outside of my car with me. I also do not feel safe bringing it into a home with me because of the possibility of it being stolen.”

“Fear of being attacked to steal the tablet.”

“I do not use it in the field because of the rural areas I cover and the risk of being followed or assaulted. If I document, I have to immerse myself and concentrate on what I am doing...I don't like to 'flash' I have a computer with me in the field. No one knows what kind of relatives of persons we may encounter in the field or in the client's homes.”

Table 5: APS Tablet PC User Survey Quantitative Questions	December 2006 (Survey 2) n=324*
<b>If you do use your Tablet PC in the client's home or other investigative location, in general what reactions have you received?</b>	
Positive	26%
Negative	13%
No reaction	27%
Other, Please Specify _____	12%
Not applicable	13%
Left blank	9%

**Highlights of Table 5:**

- 53% of respondents to the second survey reported that when they used their Tablet PC in the client's home or other investigative location, the reactions received were “positive” or “no reaction”.
- 13% reported when using the Tablet PC in a client’s home or other investigative location, the reactions received were “negative”.

When asked about specific situations of client reactions to the Tablet PC, the majority of respondents reported that the Tablet PC distracted the clients, caused client discomfort, and inhibited good communication and openness. Some examples of comments are:

“[Clients] were not as open to communicating with APS.”

“You came across as not being on their level.”

“Clients want to know why I have to bring that thing.”

“Clients are more interested in what I am doing than being interviewed.”

Other respondents said they had positive comments and a few reported both saying:

“Curiosity. Then I have to explain how it works. “

“Varied from suspicious to curious.”

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\* The percentages for the survey response will not total to 100%.

Table 6: APS Tablet PC User Survey Quantitative Questions	December 2006 (Survey 2) n=324*
<b>When using the Tablet PC outside of a DFPS office, I most commonly input text (i.e., take notes, complete forms, write) with the:</b>	
Digital pen alone (e.g., use in MS Journal)	26%
Digital Pen on the Tablet Input Panel (TIP) (e.g., use in MPS or MS Word)	31%
Portable keyboard	55%
Buttons on the device	4%
Voice Recognition	5%
Transcription Service (any method of SpeakWrite)	23%
Not applicable	4%
Other, please specify _____	2%

**Highlights of Table 6:**

- Respondents to the second survey identified which features of the Tablet PC they most commonly used when inputting text outside of the office:
  - 55% use the portable keyboard
  - 31% use the digital pen with concurrent (i.e. real time) handwriting recognition
  - 26% use the digital pen in ink mode (i.e. most similar to pen and paper)
  - 23% use the transcription service.

\* The percentages for the survey response will not total to 100%.

**Responses to the Features Section of the Survey**

The Features section of the survey elicited information from respondents about various aspects of the Tablet PCs such as screen size, handwriting and voice recognition. For the purposes of the APS Mobile Technology Evaluation, questions and responses related to MPS’ abilities and any suggestions for changes/improvements are included in our analysis.<sup>11</sup>

A mobile version of the case management system (IMPACT) was developed to allow access to key case details without relying on a wireless connection. This application, Mobile Protective Services (MPS), allows caseworkers to “check out” cases they need to use in the field, and then “check in” all information they have documented at a later time.<sup>12</sup>

**New Questions – The following questions were only asked during Survey Period 2. The responses are included in this document to establish a baseline for subsequent evaluations.**

Tables 7 and 8 represents the responses received during the Survey Period 2.

<b>Table 7: APS Tablet PC User Survey Quantitative Questions</b>	<b>December 2006 (Survey 2) n=324*</b>
<b>Do you use the MPS application?</b>	
Yes	56%
Sometimes	32%
No	12%

**Highlights of Table 7:**

- 88% of respondents to the second survey reported using MPS application to various degrees.
- 12% report not using the MPS application.

<sup>11</sup> APS Tablet PC User Surveys, January and December 2006.

<sup>12</sup> APS Tablet PC User Surveys, January and December 2006.

\* The percentages for the survey response will not total to 100%.

**Table 8: APS Tablet PC User Survey**  
**Qualitative Questions**  
 December 2006 (Survey 2)

**What additional functionality (if any) would you like to see in the MPS application?**

Caseworkers had three main suggestions to expand the functionality of MPS including allowing workers to enter all of their contacts, complete the Allegation window/Investigation Conclusion windows, and access the “Persons” list.

“Ability to enter all of my contacts...I would like to be able to add all contacts, not just 24 hour or initial face to face contacts.”

“Be able to complete Investigations Conclusion page.”

“I would like to be able to fully document a case, including the Allegation window so that all that is left is to sync, and then save and submit to IMPACT.”

“Access to “Persons” list and the ability to address allegations...Be able to validate/invalidate allegations...To be able to move a case from Investigation to Service Delivery while in MPS.”

Other requests asked that MPS mirror more IMPACT functionality:

“Ability to change priority level of cases received when on-call so the worker can completes all the documentation/items necessary in MPS, rather than having to complete some in MPS and other in IMPACT.”

“The ability to “add/change info on the person list...Ability to change person detail and the ability to get a case completely ready to send to the supervisor. That way once it is put back into IMPACT, the caseworkers can send it straight to the supervisor.”

“MPS functions need to be able to access all areas of the IMPACT screens.”

Workers would like to “see the Intake information/CARE Tool while in Service stages” and “make entries into CARE/Outcome Matrix while in the field.”

Just as in other sections of the APS User Survey results, several workers said that reliability needs to be improved:

“Something that will ensure me that I won’t lose my work, once I have entered it into the system.”

Finally, one worker would like more address detail added:

“The address field is functional in that you are able to see the client’s address; however, if they have an apartment number or trailer number, you are unable to see it. This would be helpful if we could actually hyperlink on the address to obtain that information when needed.”

### Responses to the Connectivity Section of the Survey

The Connectivity section of the survey elicited information from respondents about their usage and needs of wireless connectivity. In addition to the performance of the technology, it is important to understand the value of this feature to the field staff and how they are using it because connectivity has consistently been the highest reported area for both the successes and challenges.<sup>13</sup>

Tables 9 through 12 represents the changes that occurred between the Survey Periods 1 and 2.

<b>Table 9: APS Tablet PC User Survey Quantitative Questions</b>	<b>January 2006 (Survey 1) n=264*</b>	<b>December 2006 (Survey 2) n=324*</b>	<b>% Change</b>
<b>Which of the following activities do you most commonly perform when connected wirelessly? (Check all that apply)</b>			
Perform an MPS Synchronization with IMPACT	33%	44%	↑
Check cases in or out from IMPACT to MPS (e.g., download new intake, check case in, etc)	43%	48%	↑
Work in the IMPACT application by entering information	42%	62%	↑
Access the IMPACT application briefly (e.g. look up information)	45%	61%	↑
Send and/or receive e-mail	51%	54%	↑
Access the internet	33%	41%	↑
Access documents on the network (e.g., H: or S: drives)	Not Asked	19%	
None	7%	4%	↓

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, and most commonly performed activities when connected wirelessly.

- From the first survey:
  - Those who used the Tablet PC outside the office “every day” were more likely to use the e-mail and Internet activities than those who use the PC “a few times a month”.
  - Those who have worked for APS less than one year were significantly more likely to report that they use e-mail and Internet when connected wirelessly. They also were more likely to report that they access the IMPACT applications briefly.
- From the second survey:
  - Those who used the Tablet PC outside the office “every day” were significantly more likely than those who reported that they “never” use the PC to perform MPS synchronizations with IMPACT.
  - Those who use the PC “every day” were more likely than those who used it “a few times a month” or “never” to check cases in or out from IMPACT to MPS.
  - Those who reported that they “never” use the PC outside of the office were significantly less likely to report working in IMPACT by entering information. The other three usage groups were not significantly different from one another (“every day”, “a couple of times a week” and “a few times a month”).
  - Those who reported using the PC “every day” were significantly more likely than those who used it “a few times a month” to report that they use the PC to access the internet when connected wirelessly.

<sup>13</sup> APS Tablet PC User Surveys, January and December 2006.

\* The percentages for the survey response will not total to 100%.

\* The percentages for the survey response will not total to 100%.

Table 10: APS Tablet PC User Survey Quantitative Questions	January 2006 (Survey 1) n=264*	December 2006 (Survey 2) n=324*	% Change
<b>Please rate your satisfaction regarding ability of use.</b> I am satisfied with the ability to use the wireless service from my home:			
Strongly Disagree	12%	11%	↓
Disagree	14%	14%	—
Neutral	10%	11%	↑
Agree	31%	29%	↓
Strongly Agree	22%	27%	↑
Unable to use	Not asked	5%	
Not applicable	11%	2%	↓

**Highlights of Table 10:**

- 53 percent of respondents during Survey 1 report they “Agree” or “strongly agree” that they are satisfied with their ability to wireless from home as compared to 56 percent during Survey 2.
- 26 percent of respondents during Survey 1 and 25 percent during Survey 2 “Disagreed” or “Strongly Disagreed” that they were satisfied with the wireless service from their homes. This is significant given that APS is moving towards a more mobile environment.

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC usage outside the office, tenure, and satisfaction regarding ability of wireless use. For both surveys, there were:

- No significant differences between groups based on frequency of Tablet PC use and respondent satisfaction with their ability to use the wireless service from home.
- No significant differences between respondents who had worked for APS for “less than one year” and those who had worked “more than one year”.

\* The percentages for the survey response will not total to 100%.

\* The percentages for the survey response will not total to 100%.

**Table 11: APS Tablet PC User Survey**  
**Qualitative Questions**  
December 2006 (Survey 2)

**How does wireless aid effective fieldwork?**

Workers who are able to use wireless state that it enables them to access cases, information, create maps and connect with other workers and their supervisors. Wireless has increased casework flexibility and has improved the quality of their casework and documentation. However, many workers do not have access to wireless in rural areas, have sporadic wireless connections or the connection is too slow for many. Those who have access to wireless, and express that it aids effective fieldwork are saying:

“I am able to access cases from outside of the office...Check out new intakes without going back to office; look up resources and info online.”

“Ability to access impact information, SpeakEasy, email and the Internet out in the field (if the connection is good), looking up resources, looking up cases, reviewing information, looking up directions for myself and clients. Being able to do all of this on the road, in the car or at the clients home so that I don't need to make a second trip out to give them the information.”

“It allows me more flexibility. If I receive a new intake in the same area I have visits. I can synch the new case and fit the new case in with the other visits.”

On call workers like the wireless saying:

“It helps when I am on-call to be able to document and research cases when I am on-call.”

“Send notes to supervisor and other workers when needed.”

Caseworkers suggested a variety of ways that wireless has aided fieldwork including the ability to “look up cases”, reviewing a case file “before a visit” and “submitting information” or “documenting” without having to return to the office. Other workers said:

“The ability to access information as needed for the client.”

“I was able to access new cases as they came in and document case initiation attempts.”

Other workers talked about wireless documentation saying:

“Allows the opportunity to document while in the field.”

“It is helpful to keeping the case updated or looking up other cases while in the field.”

Some caseworkers talked about Speakeasy:

“I can open SpeakEasy, dictate the contact, return to the office or home, and upload. Will receive the information within an hour.”

Those who do have a sporadic connection are more reserved in their judgment saying:

“Can sometimes get resource information. Can receive email and sometimes send them. Able to get maps and directions.”

“If you are in town you can access all you need without having to take notes on paper or printing out cases.”

Workers who do not have wireless access wish they did saying:

“I think it would be great if there was a service that we could get to work here (Alltel or Cingular).” No service in my area - would be beneficial.”

“Wireless in most of the rural area is totally useless. If it were advanced more maybe it would be effective.”

A few workers report that they “Don't use it much” and “It does not aid fieldwork.”

**Table 12: APS Tablet PC User Survey**  
**Qualitative Questions**  
 December 2006 (Survey 2)

**How does wireless hinder effective fieldwork?**

The lack of connectivity and slowness of transmission are still major issue in many parts of the state particularly in the rural areas.

“There is no signal in some areas, so I cannot access anything.” In our analysis—recommendations sections we have to make sure we clarify that this type of comment is a training/communication issue. It shows a misunderstanding of the overall solution to think that you must have a wireless connection in order to effectively use the equipment. Also the dropped call—losing info in IMPACT shows another training problem—either with proper saving or just an unrealistic use of the solution—should be in MPS if connection is not stable enough to support IMPACT.

“My wireless card is so slow that I have to wait several minutes before next action.”

Others report losing data when the connection goes down saying:

“When a call drops [I] lose information in IMPACT.”

“For those who work directly in IMPACT, dropped signals have been problematic.”

“Most of the time, I am not able to get connected via the wireless card.”

Other technical issues include the battery life and the time it takes to get the equipment fixed.

“It drains the battery too quickly. I tried to open, complete, then email a document stored on the H drive, but by the time I got all of the applications open, the battery was dead.”

“Life span of battery.”

“Long [time] to get it fixed and they always break.”

Also, several workers indicate that wireless problems reduce casework efficiency and productivity.

“Documentation can not be done the same day if wireless connectivity is not available.”

### Responses to the Support Section of the Survey

The Support section of the survey elicited information from respondents about the quality of support they receive from the Customer Support Center Help Desk, Regional IT staff and their APS Skilled Users. For the purposes of the APS Mobile Technology Evaluation, questions and responses related to Customer Support Center Help Desk and Regional IT Staff, and any suggestions for changes/improvements are included in our analysis.<sup>14</sup>

Table 13 represents the changes that occurred between the Survey Period 1 and 2.

<b>Table 13: APS Tablet PC User Survey Quantitative Questions</b>	<b>January 2006 (Survey 1) n=264*</b>	<b>December 2006 (Survey 2) n=324*</b>	<b>% Change</b>
<b>Rate the assistance you have received from the following support services.</b>			
<b>Customer Support Center (e.g. CSC, Help Desk) when reporting a Tablet PC problem over the phone</b>			
Good	51%	50%	↓
Moderate	22%	34%	↑
Poor	11%	10%	↓
Not Applicable	17%	5%	↓
<b>Regional technicians when they are addressing a Tablet PC problem</b>			
Good	59%	53%	↓
Moderate	20%	31%	↑
Poor	2%	9%	↑
Not Applicable	18%	7%	↓

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, and satisfaction with the Customer Support Center (e.g. CSC, Help Desk).

- In the first survey, those who used the PC “every day” or “a few times a month” were significantly more likely to report that they had better service than those who reported that they “never” used the PC outside the office. Those who used the PC “every day” or “a few times a month” had the most positive ratings.
- In the second survey, 50 percent of all respondents in each group for frequency of Tablet PC use (i.e. “every day”, “a couple of times a week” or “a few times a month”) reported that the CSC and Help Desk provided service that was good.
- In the second survey, approximately 30 percent of each group (and, 20 percent of respondents from the first survey) reported that the service was moderate, including those who reported that they “never” use the PC outside the office.

The same percentages held true for the data when compared by tenure (i.e. those who worked for APS for “less than one year” compared with those who worked “more than one year”).

- There were no significant differences between groups when analyzing tenure and satisfaction with support services for both the first and second survey.
- In the second survey, approximately 50 percent of respondents reported that the CSC and Help Desk provided good service.
- Approximately 30 percent of respondents reported moderate service quality (Survey Period 2).

<sup>14</sup> APS Tablet PC User Surveys, January and December 2006.

\* The percentages for the survey response will not total to 100%.

\* The percentages for the survey response will not total to 100%.

**Responses to the Transcription Section of the Survey**

The Transcription section of the survey elicited information from respondents about their usage of the SpeakWrite service and what methods of submission they most frequently use. Comments related to improvements were also requested.<sup>15</sup>

**New Questions – The following questions were only asked during Survey Period 2. The responses are included in this document to establish a baseline for subsequent evaluations.**

Tables 14 and 15 represents the responses received during the Survey Period 2.

<b>Table 14: APS Tablet PC User Survey Quantitative Questions</b>	<b>December 2006 (Survey 2) n=324*</b>
<b>Which submission method do you use for the SpeakWrite dictation/transcription services? (Select all that apply)</b>	
Calling from the phone in my office	32%
Calling from a cellular phone in the field	14%
Calling from a phone in my home	23%
Recording on the Tablet PC in my office and sending via SpeakEasy	23%
Recording on the Tablet PC in the field and sending via SpeakEasy	15%
Recording on the Tablet PC in my home and sending via SpeakEasy	19%
Not applicable - I do not use the SpeakWrite service	40%

**Highlights of Table 14:**

- When submitting transcription requests to SpeakWrite, staff reported they used the following services:
  - 55% - Calling from phone in office or home
  - 57% - Recording on Tablet PC in office, home or in the field and sending via Speakeasy
  - 14% - Calling from a cellular phone in the field
  - 40% - Do not use the SpeakWrite service

<sup>15</sup> APS Tablet PC User Surveys, January and December 2006.

\* The percentages for the survey response will not total to 100%.

**Table 15: APS Tablet PC User Survey**  
**Qualitative Questions**  
December 2006 (Survey 2)

**What suggestions do you have to make use of the SpeakWrite service more valuable?**

When asked about suggestions do you have to make use of the SpeakWrite service more valuable, the majority of respondents did not have any suggestions and reported that SpeakWrite is a valuable tool. There is a strong desire to maintain this service as a complement to the Tablet PCs. Some examples of comments are:

“I have found SpeakWrite a very valuable tool which is helping me document because my typing skills are questionable.”

“Already one of the most valuable tools we have.”

“Nothing, SpeakWrite is the best thing to help with documentation.”

“None, speak write is the best thing given to us.”

“None. But I do strongly recommend the agency maintain this service.”

“I depend on the SpeakWrite option on a daily basis to meet the timeframe of facility investigations.”

“This service is great and helps to stay current with doc.”

“This is the most valuable tool the State has given workers.”

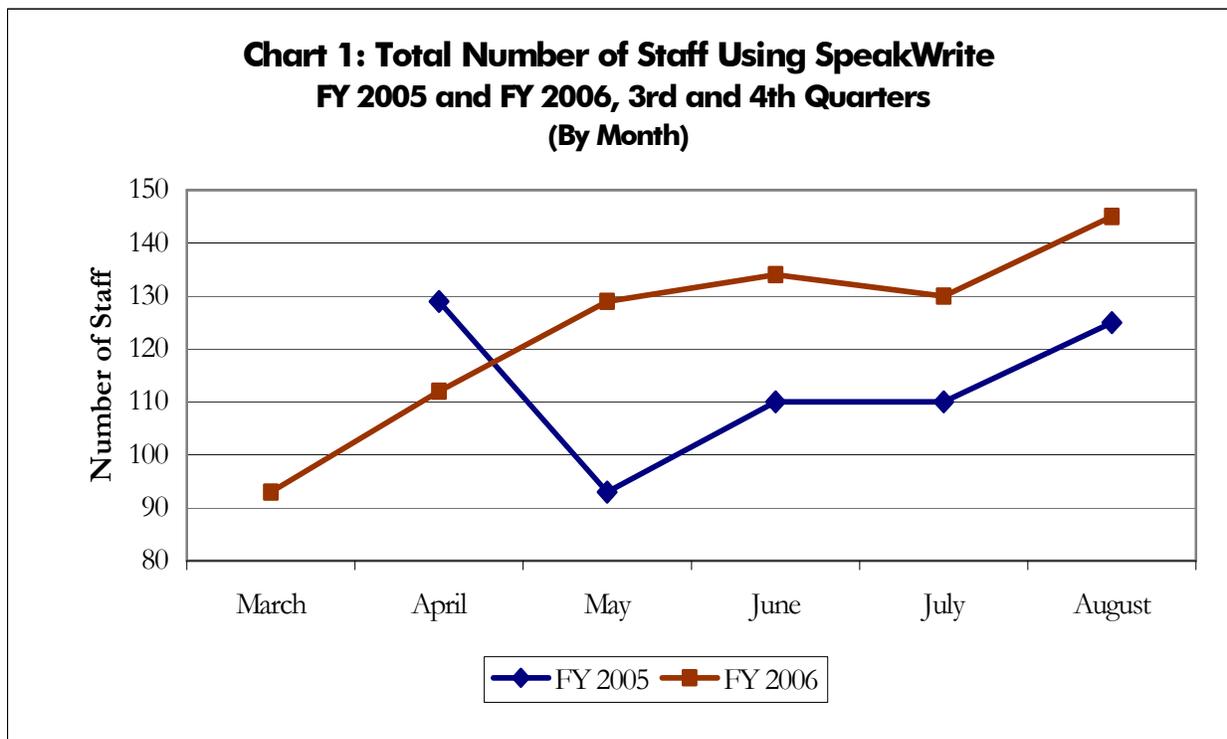
### Transcription Services (CyberSecretaries/SpeakWrite) Data

Formerly CyberSecretaries, SpeakWrite is a service that allows caseworkers to dictate work-related material into a phone, digital recorder, desktop PC or Tablet PC, and produces a text transcript of the recording for the employee via e-mail. SpeakWrite also accepts handwritten documentation by fax or e-mail “hand-written” notes to be transcribed, and also, sent back via e-mail.

According to the HHSC Service Level Agreement with SpeakWrite, on average, dictations are returned within three hours. The final product can be cut and pasted into IMPACT, court reports, letters, or other documents. DFPS has provided this tool to assist staff in managing workload, and is intended to allow caseworkers more time out in the field and less time in front of a computer. This system has consistently been reported as fairly easy and intuitive to use by direct delivery staff.<sup>16</sup>

Charts 1 and 2, and Table 16<sup>17</sup> are illustrations of the “Total Number of Staff Using SpeakWrite”, “Total SpeakWrite Words Dictated per Call”, and “Total Calls per Staff”. (Currently, “Total Number of Staff Using SpeakWrite”, “Total SpeakWrite Words Dictated per Call”, and “Total Calls per Staff” are aggregated together for APS In-Home and Facility.)

When comparing the three different fiscal years to one another, there was a slight increase in the “Total Calls per Staff” between FY 2005 and FY 2006, but the difference between the fiscal years is negligible.

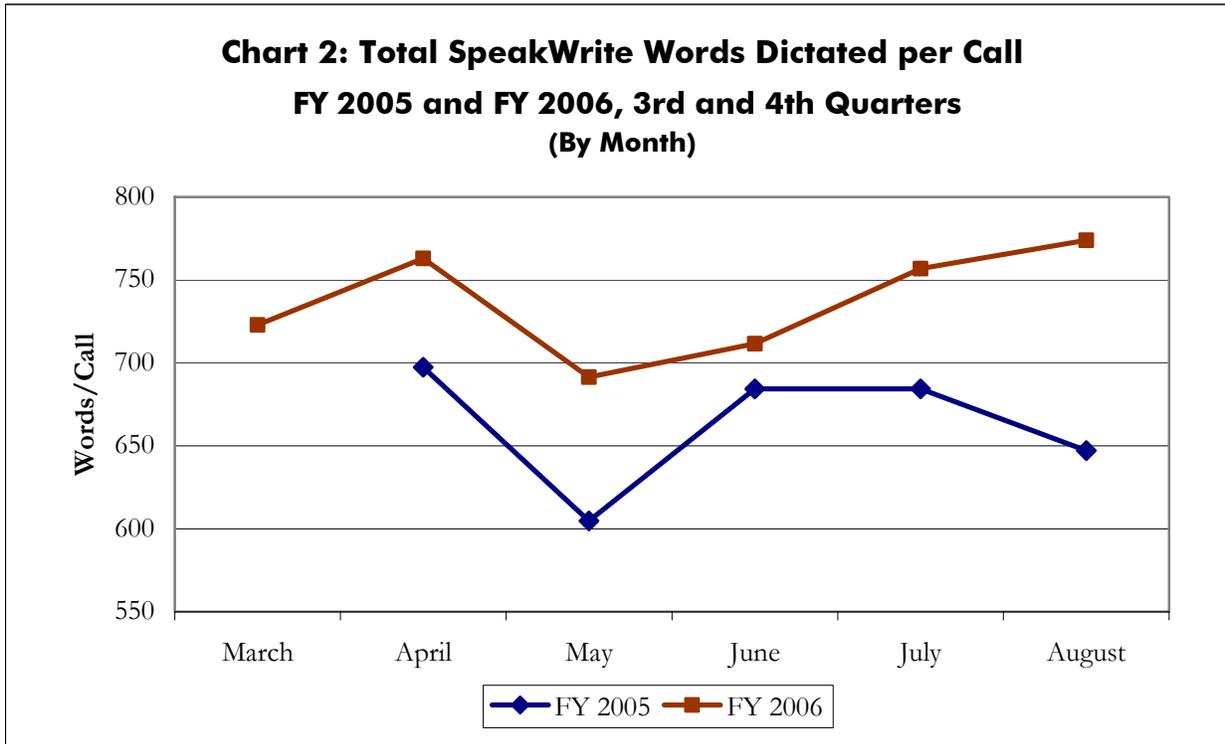


#### Highlights of Chart 1:

- There was a slight increase in “Total Number Staff Using SpeakWrite” from FY 2005 and FY 2006.
- The average number of staff using SpeakWrite:
  - 113 employees – FY 2005
  - 124 employees – FY 2006

<sup>16</sup> The Department of Family and Protective Services (DFPS), DFPS Intranet, March 27, 2007.

<sup>17</sup> Data compiled from SpeakWrite Monthly Report.



**Highlights of Chart 2:**

- There was an increase in “Total SpeakWrite Words Dictated per Call” from FY 2005 and FY 2006.
- The average number SpeakWrite words dictated per call:
  - 664 words – FY 2005
  - 737 words – FY 2006

## Conclusion and Next Steps - Examination of Mobile Technology Usage

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### Conclusion

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#### Frequency of Tablet PC Usage

- The percentage of those who use the Tablet PC outside of the office “every day” increased between the first and second survey (i.e. 38% to 52%).
- The percentage of those who use it “a few times a month” or “never” decreased (i.e. 25% to 15%).
- Respondents indicated that they use the Tablet PC in their “home” and in the “car” most often (86% and 80%, respectively).
- More than half of respondents (e.g. 57%) are using the Tablet PC in the client’s home.
- 39 percent of respondents to the second survey reported that they use the Tablet PC in a client’s home or other investigative location fifty percent of the time or more.
- 43 percent report using the Tablet PC in a client’s home or other investigative location 0-25% of the time.

#### Barriers of Tablet PC Usage

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, the barriers to productive use of the Tablet PC, and the likeliness of taking the Tablet PC into the client’s home. Respondents who used the Tablet PC:

- “Every day” or “a couple of times a week” were more likely to take the Tablet PC into a “client’s home”.
- Workers who had worked for APS less than one year were significantly more likely to take the PC into a client’s home.
- “Every day” were significantly more likely to use the Tablet PC in a “client’s home” than those who used it “a couple of times a week”, “a few times a week” or “never”. (This indicated that frequent usage outside the office increased the likelihood that a caseworker will use the mobile technologies in a “client’s home”).
- There were no significant differences between groups when examining frequency of use outside of the office and barriers to Tablet PC usage.
- There were no significant differences between groups for the percentage of the time that caseworkers take the PC into a client’s home and barriers to Tablet PC usage.
- Of those respondents who do not use (or rarely use) the Tablet PC in the client’s home or other investigative location, they commented that they had issues with building rapport with clients, having clients finding the Tablet PC distracting, and not having a place to use the Tablet PC in some locations.
- In addition, respondents feel uncomfortable taking the Tablet PC into unknown situations, using the equipment with clients with mental illness or bringing it out in unsafe neighborhoods.
- When asked about specific situations of client reactions to the Tablet PC, the majority of respondents reported that the Tablet PC distracted the clients, caused client discomfort, and inhibited good communication and openness.

#### Client Reaction

- 53% of respondents to the second survey reported that when they used their Tablet PC in the client’s home or other investigative location, the reactions received were “positive” or “no reaction”.
- 13% reported when using the Tablet PC in a client’s home or other investigative location, the reactions received were “negative”.

## Wireless Connectivity

- Respondents to both surveys most often identified “Wireless Connectivity” as the biggest barrier to productive use of mobile technologies.

### Most Commonly Performed Activities When Connected Wirelessly

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, and most commonly performed activities when connected wirelessly.

- From the first survey:
  - Those who used the Tablet PC outside the office “every day” were more likely to use the e-mail and Internet activities than those who use the PC “a few times a month”.
  - Those who have worked for APS less than one year were significantly more likely to report that they use e-mail and Internet when connected wirelessly. They also were more likely to report that they access the IMPACT applications briefly.
- From the second survey:
  - Those who used the Tablet PC outside the office “every day” were significantly more likely than those who reported that they “never” use the PC to perform MPS synchronizations with IMPACT.
  - Those who use the PC “every day” were more likely than those who used it “a few times a month” or “never” to check cases in or out from IMPACT to MPS.
  - Those who reported that they “never” use the PC outside of the office were significantly less likely to report working in IMPACT by entering information. The other three usage groups were not significantly different from one another (“every day”, “a couple of times a week” and “a few times a month”).
  - Those who reported using the PC “every day” were significantly more likely than those who used it “a few times a month” to report that they use the PC to access the internet when connected wirelessly.

### Satisfaction Regarding Ability of Wireless Use

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC usage outside the office, tenure, and satisfaction regarding ability of wireless use. For both surveys, there were:

- No significant differences between groups based on frequency of Tablet PC use and respondent satisfaction with their ability to use the wireless service from home.
- No significant differences between respondents who had worked for APS for “less than one year” and those who had worked “more than one year”.
- 53 percent of respondents during Survey 1 report they “Agree” or “strongly agree” that they are satisfied with their ability to wireless from home as compared to 56 percent during Survey 2.
- 26 percent of respondents during Survey 1 and 25 percent during Survey 2 “Disagreed” or “Strongly Disagreed” that they were satisfied with the wireless service from their homes. This is significant given that APS is moving towards a more mobile environment.

### How does wireless aid effective fieldwork?

Workers who are able to use wireless state that it enables them to access cases, information, create maps and connect with other workers and their supervisors. Wireless has increased casework flexibility and has improved the quality of their casework and documentation. However, many workers do not have access to wireless in rural areas, have sporadic wireless connections or the connection is too slow for many. Those who have access to wireless, and express that it aids effective fieldwork.

Caseworkers suggested a variety of ways that wireless has aided fieldwork including the ability to “look up cases”, reviewing a case file “before a visit” and “submitting information” or “documenting” without having to return to the office. Those who do have a sporadic connection are more reserved in their judgment saying that they “can sometimes get resource information. Can receive email and sometimes send them. Able to get maps and directions.” or “If you are in town you can access all you need without having to take notes on paper or printing out cases.” Workers who do not have wireless access wish they did.

### **How does wireless hinder effective fieldwork?**

The lack of connectivity and slowness of transmission are still major issue in many parts of the state particularly in the rural areas. Respondents report losing data when the connection goes down, and other technical issues include the battery life, and the time it takes to get the equipment fixed. Also, several workers indicate that wireless problems reduce casework efficiency and productivity.

### **Mobile Protection Services**

- 88% of respondents to the second survey reported using MPS application to various degrees.
- 12% report not using the MPS application.
- Caseworkers had three main suggestions to expand the functionality of MPS including allowing workers to enter all of their contacts, complete the Allegation window/Investigation Conclusion windows, and access the “Persons” list.

### **Tablet PC Features**

- Respondents to the second survey identified which features of the Tablet PC they most commonly used when inputting text outside of the office:
  - 55% use the portable keyboard
  - 31% use the digital pen with concurrent (i.e. real time) handwriting recognition
  - 26% use the digital pen in ink mode (i.e. most similar to pen and paper)
  - 23% use the transcription service.

### **Technical Support**

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, and satisfaction with the Customer Support Center (e.g. CSC, Help Desk).

- In the first survey, those who used the PC “every day” or “a few times a month” were significantly more likely to report that they had better service than those who reported that they “never” used the PC outside the office. Those who used the PC “every day” or “a few times a month” had the most positive ratings.
- In the second survey, 50 percent of all respondents in each group for frequency of Tablet PC use (i.e. “every day”, “a couple of times a week” or “a few times a month”) reported that the CSC and Help Desk provided service that was good.
- In the second survey, approximately 30 percent of each group (and, 20 percent of respondents from the first survey) reported that the service was moderate, including those who reported that they “never” use the PC outside the office.
- The same percentages held true for the data when compared by tenure (i.e. those who worked for APS for “less than one year” compared with those who worked “more than one year”).
- There were no significant differences between groups when analyzing tenure and satisfaction with support services for both the first and second survey.
- In the second survey, approximately 50 percent of respondents reported that the CSC and Help Desk provided good service.
- Approximately 30 percent of respondents reported moderate service quality (Survey Period 2).

### SpeakWrite Services

- There was a slight increase in “Total Number Staff Using SpeakWrite” from FY 2005 and FY 2006.
- The average number of staff using SpeakWrite:
  - 113 employees – FY 2005
  - 124 employees – FY 2006
- There was an increase in “Total SpeakWrite Words Dictated per Call” from FY 2005 and FY 2006.
- The average number SpeakWrite words dictated per call:
  - 664 words – FY 2005
  - 737 words – FY 2006
- When submitting transcription requests to SpeakWrite, staff reported they used the following services:
  - 32% - Calling from phone in office
  - 23% - Calling from phone in my home
  - 23% - Recording on Tablet PC in office and sending via Speakeasy
  - 19% - Recording on Tablet PC in worker’s home and sending via Speakeasy
  - 15% - Recording on Tablet PC in field and sending via Speakeasy
  - 14% - Calling from a cellular phone in the field
  - 40% - Do not use the SpeakWrite service
- When asked about suggestions do you have to make use of the SpeakWrite service more valuable, the majority of respondents did not have any suggestions and reported that SpeakWrite is a valuable tool. There is a strong desire to maintain this service as a complement to the Tablet PCs.

## Next Steps

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The APS Mobile Technology Evaluation will not include the following data in this report, but hope it will be included as a data source in subsequent evaluations.

- Tablet PC Synchronization Report
- Tablet PC Check-In/Check-Out Report
- Wireless Connectivity Report
- Mobile Technology Usability Study
- Help Desk

### Tablet PC Synchronization Report

There are two main ways for caseworkers to use the Tablet PC to record client information: wireless connection and MPS. The APS Tablet PC Synchronization Report displays the last time each APS (In-Home and Facility) worker synched his or her Tablet PC, using the Mobile Protective Services application, with IMPACT. MPS is an application that resides on the Tablet PCs to enable caseworkers to become “mobile” out in the field without reliance on a wireless connection. It contains key IMPACT documentation pages for any cases “checked out” of IMPACT by the worker. MPS provides synchronization between the documentation stored on the Tablet PC and the full case record in IMPACT. The CARE is one of the main MPS pages that can be used in the field even when disconnected from the network.<sup>18</sup> Currently, “Total Number of APS Tablet PC Synchronizations” is aggregated together for APS In-Home and Facility. To be more useful in evaluating Mobile Technology Usage, reporting the data separately for APS In-Home and Facility, plus calculating the percentage of Tablet PC users who sync per month would provide more detail in Tablet PC Synchronization.

### Tablet PC Check-In/Check-Out Report

The Tablet PC Check-In/Check-Out Report shows how many APS In-Home and Facility cases are being checked in and out by a particular worker through their Tablet PC (using the MPS application). The DFPS Information Resource Management Division runs the report at approximately 4:00PM everyday, collecting the data for a 24-hour period each time. The report was originally requested in January 2007, and the data collection started on January 15, 2007. Due to the data limitations, the APS Mobile Technology Evaluation will not include any data from this report.

### Wireless Connectivity Report

DFPS Tablet PCs use a wireless card to access the DFPS network including IMPACT and e-mail on an as-needed basis. Wireless access is not required to use the documentation benefits of the Tablet PC. However, staff has the flexibility to use wireless as they see fit to perform casework if a wireless connection is available.

The wireless access operates similar to a cellular phone signal, and does not rely on the caseworker to be in a particular location. The wireless plan allows for unlimited minutes and does not have roaming charges associated; there are no additional costs to the worker or the region. However, just like cellular phones, wireless connections are not available in parts of the state.<sup>19</sup>

Due to the report in “In Development” status, the APS Mobile Technology Evaluation will not include any data from this report.

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<sup>18</sup> Texas Department of Family and Protective Services (DFPS), DFPS Renewal – APS Reform, Mobile Computing Fact Sheet, June 9, 2005.

<sup>19</sup> Texas Department of Family and Protective Services (DFPS), DFPS Renewal – APS Reform, Mobile Computing Fact Sheet, June 9, 2005.

## Mobile Technology Usability Study

The Mobile Technology Usability Project Initiative intends to define, encourage, improve and assist in transitioning users to a mobile work environment. It is focused specifically on formalizing a usability group within DFPS to ensure that there is user input for adding, modifying, and enhancing the DFPS Mobile Technology applications. Efforts include gathering information in all aspects of a user’s day when it comes to Mobile Technology, and accounting for issues staff are dealing with regarding the applications, Tablet PCs, software, hardware, and assistance from the Customer Service Center. Once information is gathered, the Usability Group makes recommendations and suggestions for improvements in every area that a user’s Mobile Technology interactions within DFPS.

Due to the study in “In Development” status, the APS Mobile Technology Evaluation will not include any data from this report.

## Help Desk Calls

The Customer Support Center (e.g. CSC, Help Desk) is the resource that APS caseworkers contact when experiencing any IT-related difficulties, including problems with the Tablet PCs. The support is provided free of charge and is assistance is available 24 hours a day, 7 days a week.

Table 17 represents the Number of APS Tablet PC Help Closed Desk Tickets processed in FY 2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters. (Currently, Number of APS In-Home and Facility Tablet PC Help Closed Desk Tickets are aggregated together). The data is limited to this timeframe since the first APS Tablet PC Help Desk Tickets received in FY 2005, 3<sup>rd</sup> and 4<sup>th</sup> Quarters, totaled only 20. This sum was not a sufficient to compare the fiscal years.

<b>Table 17: APS Tablet PC Closed Help Desk Tickets FY 2006</b>		
	<b>Number</b>	<b>Percent</b>
<b>Help Desk Topics</b>		
Air Card	161	18%
Screen	146	16%
System	123	13%
Hardware	99	11%
Keyboard	63	7%
Windows XP	54	6%
MPS	53	6%
IMPACT	43	5%
Other	39	4%
LANDesk	36	4%
Software	29	3%
Camera	25	3%
Outlook	15	2%
Internet	13	1%
SpeakWrite	11	1%
VPN	9	1%
PDD	1	0%
<b>TOTAL</b>	<b>920</b>	<b>100%</b>

**Highlights of Table 17:**

- When reporting technical difficulties with the CSC, the CSC staff reported generating the majority of the Help Desk Tickets in the following topics:
  - 18% - Air Card
  - 16% - Screen
  - 13% - System
  - 11% - Hardware

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**Question 2: Is the program realizing efficiencies as a result of the  
Mobile Technology implementation?**

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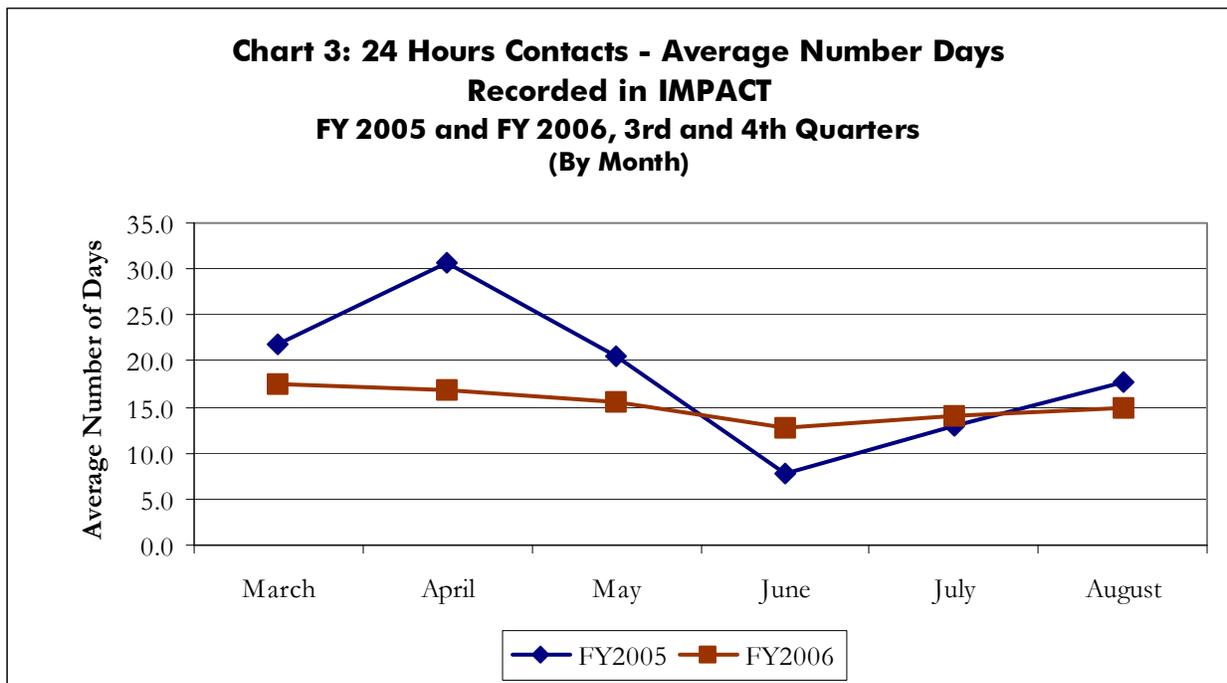
**Measurement of Changes in Efficiencies**

This section of the evaluation quantifies the changes in efficiencies in APS In-Home Program direct delivery services, and investigates if Mobile Technology influenced any difference.

**Quantitative Data from IMPACT System**

**Timeliness of Data Entry** – APS In-Home Policy states that caseworkers document each case in IMPACT completely, accurately, and in a timely manner according to policy. They are expected to record information by entering it on the various pages of fields and narrative areas in IMPACT. For “Case Contacts”, caseworkers document all case contacts in IMPACT as soon as possible, but no later than 14 calendar days following their occurrence.<sup>20</sup>

Charts 3 and 4 look at the Timeliness of Data Entry by showing the “Average Number of Days Recorded in IMPACT ” for 24 Hour and Face-to-Face Contacts.



**Highlights of Chart 3:**

Chart 3 is the “Average Number of Days Recorded in IMPACT ” for 24 Hour by Month for FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>21</sup>. The data for FY 2005 has a wider range compared to FY 2006:

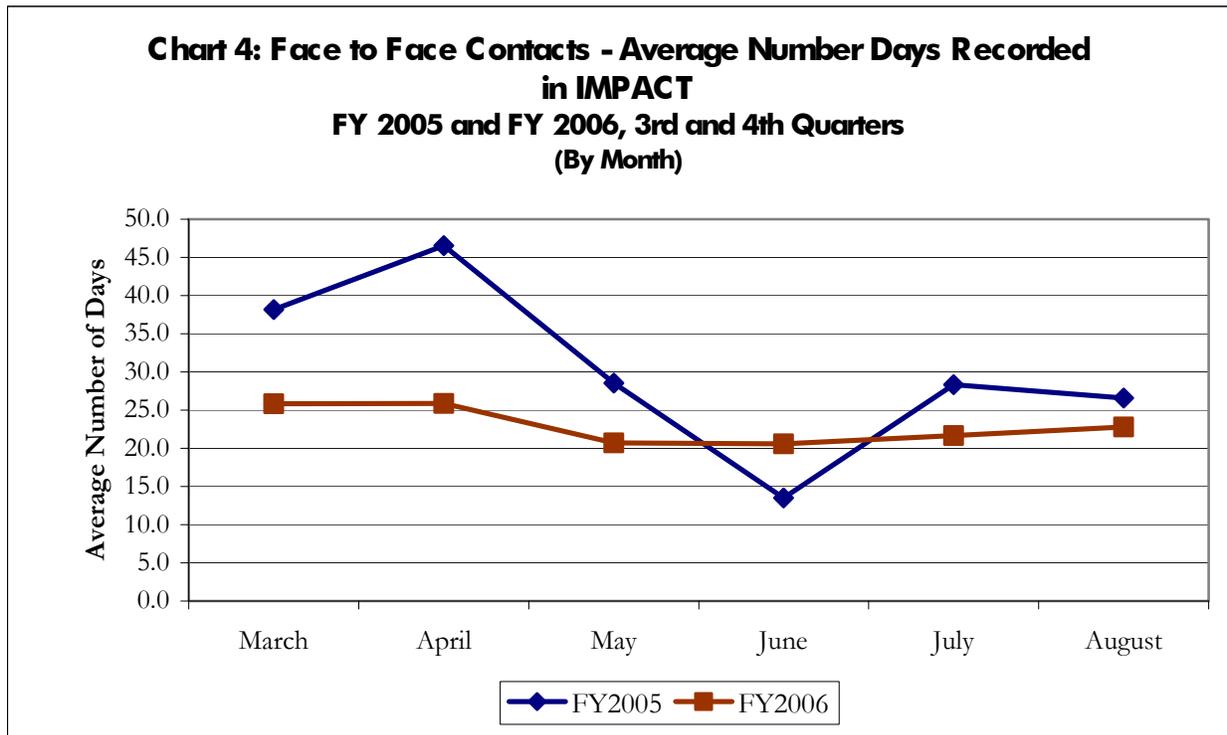
- In FY 2005, the days to record 24 Hour Contacts ranged from a low of 7.9 to 30.7 days.
- In FY 2006, the days to record 24 Hour Contacts stayed between 12.7 and 16.9 days.

The t-test assessed whether the mean days of were statistically different for each fiscal year:

- The mean days to record 24 Hour Contacts:
  - 18.6 days – FY 2005
  - 15.3 days – FY 2006
  - The difference in mean days to record 24 Hour Contacts in IMPACT between the fiscal years is statistically significant<sup>22</sup>.

<sup>20</sup> Texas Department of Family and Protective Services (DFPS), APS Policy Handbook, September 2006.

<sup>21</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.



#### Highlights of Chart 4:

Chart 4 is the “Average Number of Days Recorded in IMPACT ” for Face-to-Face by Month for FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>23</sup>. The data for FY 2005 has a wider range compared to FY 2006:

- In FY 2005, the days to record Face-to-Face Contacts ranged from a low of 13.5 to 46.6 days.
- In FY 2006, the days to record 24 Hour Contacts stayed between 20.6 and 25.9 days

The t-test assessed whether the mean days of FY 2005 and FY 2006 were statistically different from each other.

- The mean days to record Face-to-Face Contacts:
  - 30.6 days – FY 2005
  - 22.9 days – FY 2006
  - The difference in mean days to record Face-to-Face Contacts in IMPACT between the fiscal years is statistically significant<sup>24</sup>.

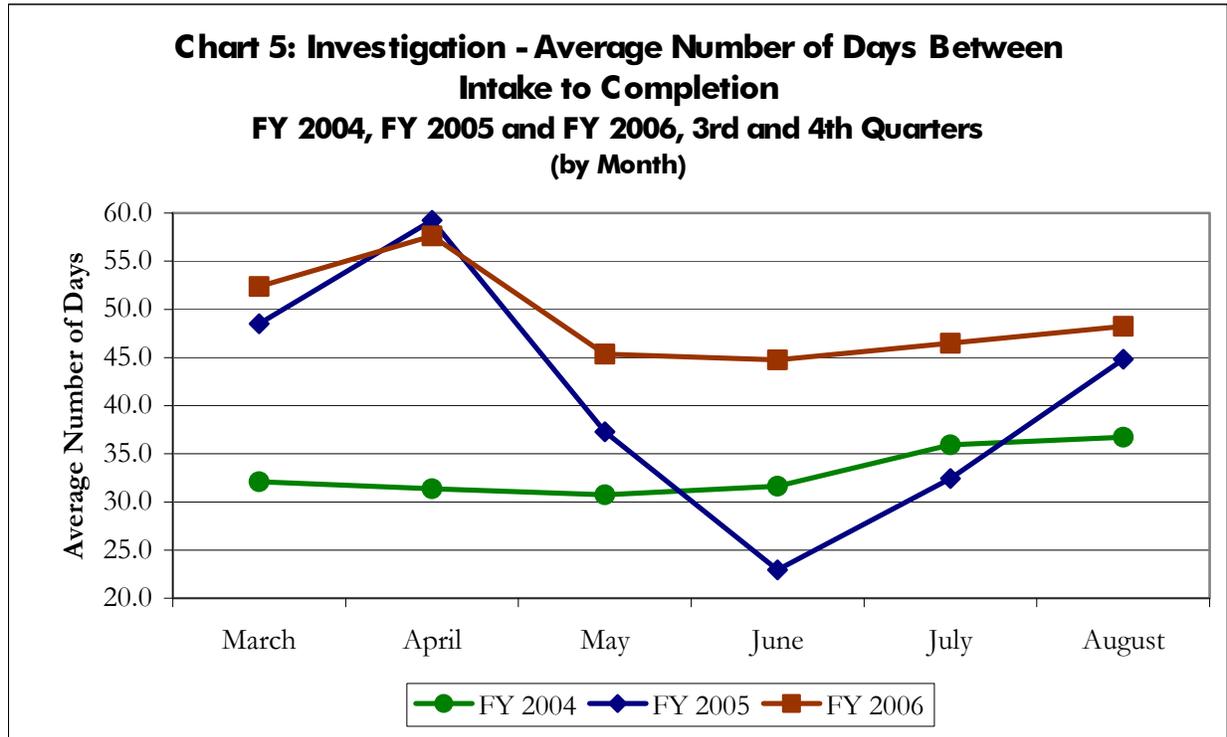
<sup>22</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

<sup>23</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>24</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

**Duration of Active Investigations** - APS Staff investigate reported abuse, neglect, or exploitation to determine whether the reported situation exists and, if so, the extent to which it adversely affects the elderly person or adult with disabilities.<sup>25</sup>

Chart 5 looks at the Duration of Active Investigation by showing the “Average Number of Days Between Intake and Completion” of an APS Investigation.



**Highlights of Chart 5:**

Chart 5 is the Average Number of Days Between Intake to Completion of an APS Investigation by Month for FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>26</sup>. For the time periods, the average days increased:

- 33.1 days – FY 2004
- 40.9 days – FY 2005
- 49.1 days – FY 2006

An Analysis of Variance (ANOVA) was performed to test for differences among the three fiscal years.

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter Mean for the three fiscal years is 42.5 days for the Investigation to progress from Intake to the Completion.
- There was a significant difference between the time periods<sup>27</sup>.

<sup>25</sup> Texas Department of Family and Protective Services (DFPS), APS Policy Handbook, 3100 Investigation, October 2002.

<sup>26</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>27</sup> SPSS Analysis of Variance: p<= .05

## APS Tablet PC User Survey

### Reponses to the Efficiency Section of the Survey

The Efficiency and Quality (the results of the Quality section will be covered in the next portion of the evaluation) section of the survey asked respondents about any benefits they have gained in the time spent documenting casework, conducting more or less fieldwork and any quality improvements they have found using a Tablet PC. Since some new workers to APS have always used a Tablet PC, only those with one or more years of experience in an APS caseworker position were asked questions regarding comparisons to previous methods.<sup>28</sup>

Table 18 represents the changes that occurred between the Survey Period 1 and 2.

<b>Table 18: APS Tablet PC User Survey Quantitative Questions</b>	<b>January 2006 (Survey 1) n=264*</b>	<b>December 2006 (Survey 2) n=324*</b>	<b>% Change</b>
<b>If you have been a caseworker for one year or more, rate the items below for time savings and efficiency regarding the use of the Tablet PC as compared to your previous methods (prior to Tablet PC):</b>			
<b>Completion of documentation closer to the time of actual contact</b>			
Takes longer	9%	8%	↓
No change	31%	26%	↓
Some time savings	45%	46%	↑
Significant time savings	14%	20%	↑
<b>Data entry time using the Tablet PC</b>			
Takes longer	14%	7%	↓
No change	33%	23%	↓
Some time savings	44%	47%	↑
Significant time savings	9%	22%	↑

### Highlights of Table 18:

- Between the first and second survey there was an increase in the percentage of respondents who reported “Some” or “Significant” improvement in the efficiency of their casework because of the Tablet PCs. (i.e. 59 percent for Survey 1 as compared to 66 percent for Survey 2.)
- Percentage increases were seen in “Data entry time using the Tablet PC” in the areas of “Some” or “Significant” time savings from 53 percent for Survey Period 1 to 69 percent Survey Period 2.

<sup>28</sup> APS Tablet PC User Surveys, January and December 2006.

\* The percentages for the survey response will not total to 100%.

\* The percentages for the survey response will not total to 100%.

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, and efficiency of their casework because of the Tablet PCs. Respondents who used the Tablet PC:

**Survey Period 1**

- Respondents who used the Tablet PC outside of the office “every day” were more likely to report some or significant time savings in completion of documentation than were those who reported using the PC “a couple of times a week”, “a few times a month” or “never”.

**Survey Period 2**

- Respondents to the second survey who reported using the Tablet PC “every day” were significantly more likely to report some time savings than those who did not.

An ANOVA was also conducted on Survey Period 1 and 2 data on the differences within tenure, and efficiency of their casework because of the Tablet PCs. Specifically, the analyses compared respondents who had worked for APS for less than one year or more than one year. Respondents who used the Tablet PC:

- For both of the surveys, those who had worked for APS for less than one year were more likely to report some time savings.
- However, there was not a significant difference between less tenured and more tenured workers for Survey Period 2.

**New Questions – The following questions were only asked during Survey Period 2. The responses are included in this document to establish a baseline for subsequent evaluations.**

Tables 19 and 20 represents the responses received during the Survey Period 2.

<b>Table 19: APS Tablet PC User Survey Quantitative Questions</b>		<b>December 2006 (Survey 2) n=324*</b>
<b>Are you able to do any same day documentation using your Tablet PC?</b>		
Yes		84%
No		16%
<b>If you answered, "Yes" to above, what case actions do you document the same day? (Check all that apply)</b>		
Case Initiation/Investigation		67%
Face-to-Face Contacts		61%
CARE Tool		46%
Monthly Status Contacts		38%
Not applicable		4%

**Highlights of Table 19:**

- 84 percent of respondents to the second survey reported the ability to complete same-day documentation for key case information using their Tablet PCs.
- The case actions identified as most often documented on the same day were:
  - 67% - Case Initiation
  - 61% - Face-to-Face Contacts
- The CARE Tool was designed specifically for use in the client’s home and in the field.
  - 46% of the respondents reported that the CARE Tool was completed on the same day.

<b>Table 20: APS Tablet PC User Survey Qualitative Questions December 2006 (Survey 2)</b>
<b>What barriers have you experienced regarding completion of same day documentation?</b>
When asked what barriers respondents experienced regarding same day documentation, the three main reasons for not documenting the same day were the time it takes to document, high caseloads, and functionality issues - particularly wireless connectivity. Some examples of comments were:
<p>“As a rural worker, I encounter time constraints, due to number of miles I have to travel from town to town. I mainly wait until I get back home or to the office.”</p> <p>“Extremely high case loads. Receipt of multiple intakes with high priorities in the same day with extended travel times between cases.”</p> <p>“I feel it is double work to do it on the PC, then sync and then edit when I can type it first time at the office in the same day.”</p>

\* The percentages for the survey response will not total to 100%.

## Conclusion and Next Steps - Measurement of Changes in Efficiencies

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### Conclusion

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#### Timeliness of Data Entry – 24 Hour Contacts

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter data for FY 2005 has a wider range compared to FY 2006:
  - In FY 2005, the days to record 24 Hour Contacts ranged from a low of 7.9 to 30.7 days.
  - In FY 2006, the days to record 24 Hour Contacts stayed between 12.7 and 16.9 days.
- The mean days to record 24 Hour Contacts:
  - 18.6 days – FY 2005
  - 15.3 days – FY 2006
  - The difference in mean days to record 24 Hour Contacts in IMPACT between the fiscal years is statistically significant<sup>29</sup>.

#### Timeliness of Data Entry – Initial Attempted or Actual Face to Face Contacts

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter data for FY 2005 has a wider range compared to FY 2006:
  - In FY 2005, the days to record Face-to-Face Contacts ranged from a low of 13.5 to 46.6 days.
  - In FY 2006, the days to record 24 Hour Contacts stayed between 20.6 and 25.9 days
- The mean days to record Face-to-Face Contacts:
  - 30.6 days – FY 2005
  - 22.9 days – FY 2006
  - The difference in mean days to record Face-to-Face Contacts in IMPACT between the fiscal years is statistically significant<sup>30</sup>.

#### Average Number of Days Between Intake to Completion

- For FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters, the average days increased:
  - 33.1 days – FY 2004
  - 40.9 days – FY 2005
  - 49.1 days – FY 2006

#### Efficiency of Casework Due to Tablet PC

- Between the first and second survey there was an increase in the percentage of respondents who reported “Some” or “Significant” improvement in the efficiency of their casework because of the Tablet PCs (i.e. 59 percent for Survey 1 as compared to 66 percent for Survey 2).
- Percentage increases were seen in “Data entry time using the Tablet PC” in the areas of “Some” or “Significant” time savings from 53 percent for Survey Period 1 to 69 percent Survey Period 2.
- In Survey Period 1, respondents who used the Tablet PC outside of the office “every day” were more likely to report some or significant time savings in completion of documentation than were those who reported using the PC “a couple of times a week”, “a few times a month” or “never”.
- In Survey Period 2, respondents to the second survey who reported using the Tablet PC “every day” were significantly more likely to report some time savings than those who did not.
- For both of the surveys, those who had worked for APS for less than one year were more likely to report some time savings.
- However, there was not a significant difference between less tenured and more tenured workers for Survey Period 2.

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<sup>29</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

<sup>30</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

### Same Day Documentation

- 84 percent of respondents to the second survey reported the ability to complete same day documentation for key case information using their Tablet PCs.
- The case actions identified as most often documented on the same day were:
  - 67% - Case Initiation
  - 61% - Face-to-Face Contacts
- The CARE Tool was designed specifically for use in the client's home and in the field. 46% of the respondents reported that the CARE Tool was completed on the same day. When asked what barriers respondents experienced regarding same day documentation, the three main reasons for not documenting the same day were the time it takes to document, high caseloads, and functionality issues - particularly wireless connectivity.

## Next Steps

The APS Mobile Technology Evaluation will not include the following data from this report, but hope it will be included as a data source in subsequent evaluations.

- Qualitative Data from APS In-Home Casereading System

## Qualitative Data from APS In-Home Casereading System

The qualitative information used to manage APS Performance comes from APS Quality Assurance (QA) Casereading. The APS Quality Assurance Specialists began analyzing APS In-Home cases in FY 2006 (there is no comparative information available for this data source). They read two cases per worker in their assigned regions or units, and enter the scores into an online QA Casereading System. The Casereading instrument for APS In-Home Program addresses all major policy requirements for Investigation, Process Compliance and Client Outcomes.<sup>31</sup>

Specifically, the Casereading program standards, or items, are goal oriented, focusing on client outcomes as much as possible. Some items are objective, focusing on deadlines met or the presence or absence of certain documentation features. Others call for quality judgments on the part of Quality Assurance Specialists. The items in each program area's instrument are divided into three broad groups, or scales. These scales are:

- **In-Home**
  - Investigation Scale
  - Process Compliance Scale
  - Client Outcomes Scale

Table 21 looks at the Investigation Scale Items from the APS In-Home Casereading System.

<b>Table 21: APS In-Home Case Reading – Investigation Scale Items <sup>32</sup> FY 2006</b>	
<b>Investigation Scale</b>	
1.	Case initiation contact was completed with a reliable source that had current information about the CL's whole situation.
3.	Interpretive services were provided for each principal having LEP or sensory impairment. (Applies to all principal contacts)
8.	The reporter was interviewed adequately and, as necessary, re-interviewed.
9.	The client was interviewed adequately and, as necessary, re-interviewed.
10.	A medical professional was interviewed when appropriate.
11.	The alleged perpetrator was interviewed adequately and, as necessary, re-interviewed.
12.	All appropriate collaterals (not including the reporter or medical professionals) were interviewed adequately and, as necessary, re-interviewed.
13.	Photographs were taken as appropriate per policy.
14.	Documentary evidence was collected as appropriate.
15.	All allegations of client problems made at intake or at any other time were investigated adequately.

<sup>31</sup> Texas Department of Family and Protective Services, APS Performance Orientation Manual, 2007.

<sup>32</sup> Texas Department of Family and Protective Services, APS In-Home Case Reading Tool, FY 2006.

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**Question 3: Has Mobile Technology maintained or improved quality of documentation?**

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**Question 3: Has Mobile Technology maintained or improved quality of documentation?**

**Assessment of Documentation Quality Changes**

This section of the evaluation reviews APS In-Home Program documentation quality change, and whether Mobile Technology is useful in the improvement.

**APS Tablet PC User Survey**

**Responses to the Quality Section of the Survey**

The Efficiency and Quality (the results of the Efficiency section was covered in the previous portion of the evaluation) section of the survey elicited information from respondents about any benefits they have gained in the time spent documenting casework, conducting more or less fieldwork and any quality improvements they have found using a Tablet PC.

Table 22 represents the changes that occurred between the Survey Period 1 and 2.

<b>Table 22: APS Tablet PC User Survey Quantitative Questions</b>	<b>January 2006 (Survey 1) n=264*</b>	<b>December 2006 (Survey 2) n=324*</b>	<b>% Change</b>
<b>Do you feel you are able to provide better quality casework services based on Tablet PC use?</b>			
Yes, significant quality improvements	8%	19%	↑
Yes, some quality improvements	42%	44%	↑
No change from previous approach	39%	26%	↓
No, the Tablet PC has decreased my casework quality	4%	2%	↓
Not applicable	6%	8%	↑

**Highlights of Table 22:**

- Between the first and second survey there was an increase in the percentage of respondents who reported “some” or “significant” improvement in the quality of their casework because of the Tablet PCs from 50% Survey Period 1 to 63% Survey Period 2.

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, quality of their casework because of the Tablet PCs.

**Survey Period 1**

- Respondents who used the Tablet PC outside of the office “every day” were more likely to report some improvement in casework quality than those who reported using the PC “a few times a month” or “never”.

**Survey Period 2**

- Those who used the Tablet PC “every day” were significantly more likely to report some improvement in casework quality than those who reported using the PC “a few times a month” or “never”.

An ANOVA was also conducted using Survey Period 1 and 2 data on the differences within tenure, and quality of their casework because of the Tablet PCs. Specifically, the analyses compared respondents who had worked for APS for less than one year or more than one year.

- For both of the surveys, those who had worked for APS for less than one year were significantly more likely to report some improvement in casework quality.

\* The percentages for the survey response will not total to 100%.

\* The percentages for the survey response will not total to 100%.

## Conclusion and Next Steps - Assessment of Documentation Quality Changes

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### Conclusion

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- Between the first and second survey, there was an increase in the percentage of respondents who reported “some” or “significant” improvement in the quality of their casework because of the Tablet PCs.
- In Survey 1, respondents who used the Tablet PC outside of the office “every day” were more likely to report some improvement in casework quality than those who reported using the PC “a few times a month” or “never”.
- In Survey 2, those who used the Tablet PC “every day” were significantly more likely to report some improvement in casework quality than those who reported using the PC “a few times a month” or “never”.
- For both of the surveys, those who had worked for APS for less than one year were significantly more likely to report some improvement in casework quality.

### Next Steps

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The APS Mobile Technology Evaluation will not include the following data from this report, but hope it will be included as a data source in subsequent evaluations.

- APS Documentation Quality Metrics

APS will determine which documentation quality metrics need to be measured in order to better link outcomes with mobile technology usage.

Due to the identification of Documentation Quality Metrics in “In Development” status, the APS Mobile Technology Evaluation will not include any data from this report, but hope it will be included as a data source in subsequent evaluations.

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**Question 4: Does Mobile Technology have an impact on APS Performance Metrics?**

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#### Question 4: Does Mobile Technology have an impact on APS Performance Metrics?

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##### Mobile Technology Impact on APS Performance as Measured by Established Metrics

This section of the evaluation analyzes the effect that Mobile Technology has on APS In-Home Program Performance Metrics associated with direct delivery services.

##### Quantitative Data from IMPACT

**Timeliness of Case Initiation (24 Hour Contact)** - The main goals of the Case Initiation of the Investigation (also referred to as the 24 Hour Contact) are to determine whether the client will be safe until the face-to-face contact occurs, given the priority assigned at intake, and whether action should be taken immediately to protect the client.<sup>33</sup>

The detailed APS Program Standards for Case Initiation of an Investigation include:

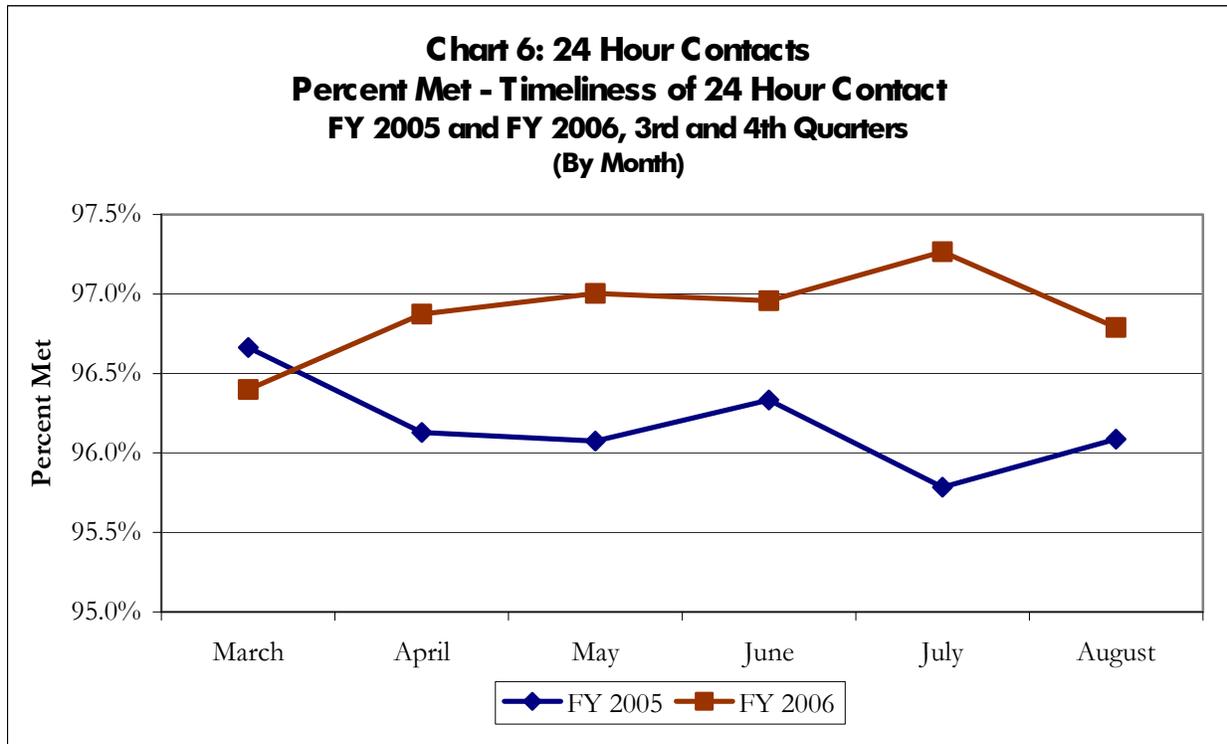
1. Initiation was completed within 24 hours of the receipt of the report.
2. 24 Hour Contact was with reliable source that had current information about the client's whole situation.
3. Immediate intervention decision was justified and documented according to policy. (The caseworker gathered enough information during initiation, even if initiation was late, to show whether the client was safe **and**, in the reader's judgment, the caseworker made the right decision about whether to provide immediate services.)
4. Appropriate services were provided in a timely manner if immediate intervention was deemed necessary.
5. Priority change was justified by information gained within 24 hours of the receipt of the report and prior to the face-to-face. (The caseworker properly upgraded or downgraded a priority when information gained within 24 hours of the receipt of the report (including information in the intake narrative) and prior to the face-to-face indicated that the client was at a higher or lower risk of harm than was originally assessed by the intake worker.)<sup>34</sup>

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<sup>33</sup> Texas Department of Family and Protective Services (DFPS), APS Policy Handbook, APS Memorandum from Debra Wanser, Policy #05-009R, Revised Policy on Initiation of the Investigation, May 31, 2005.

<sup>34</sup> Texas Department of Family and Protective Services (DFPS), APS Policy Handbook, APS Memorandum from Debra Wanser, Policy #05-009R, Revised Policy on Initiation of the Investigation, May 31, 2005.

Chart 6 represents the percent of 24 Hour Contacts Met for the 3<sup>rd</sup> and 4<sup>th</sup> Quarters for FY2005 and FY 2006. The APS In-Home Performance Goals for “Timeliness of 24 Hour Contact” is **91 percent**.



**Highlights of Chart 6:**

Overall, for 3<sup>rd</sup> and 4<sup>th</sup> quarter data, FY 2006 has slightly better performance than FY 2005.

- In FY 2005, APS caseworkers had a mean of 96.1% of 24 Hour Contacts Met.
- In FY 2006, APS caseworkers had a mean of 96.7% of 24 Hour Contacts Met.
- The difference in mean percent of 24-hour contacts met between fiscal years is statistically significant<sup>35</sup>.

<sup>35</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

**Timeliness of Initial Attempted or Actual Contact** - The caseworker must attempt a face-to-face visit with the client within the time frame specified by the priority of the report. The initial face-to-face contact ensures timely contact for the protection of the client and the collection of evidence.<sup>36</sup>

The goal of the Initial Attempted or Actual Face-to-Face (FTF) Contact with the Client is to begin gathering evidence to determine the truth of the allegation(s) and to reach an understanding of the client's overall situation. The caseworker notes any factors, which place the client at risk of abuse, neglect, or exploitation.<sup>37</sup>

A FTF contact with the client must be attempted or conducted within the timeframes for the given case priority:<sup>38</sup>

- Priority 1 - 24 hours
- Priority 2 - 3 days
- Priority 3 - 7 days
- Priority 4 - 14 days

The detailed APS Program Standards for a successful Initial (FTF) Contact with a Client include:

1. First FTF (or first attempt) was made within time frame for the priority.
2. Steps for attempting to locate the client were followed according to policy and second FTF attempt was made within timeframes and according to policy.
3. Policies were followed when the client was inaccessible or could not be located.<sup>39</sup>

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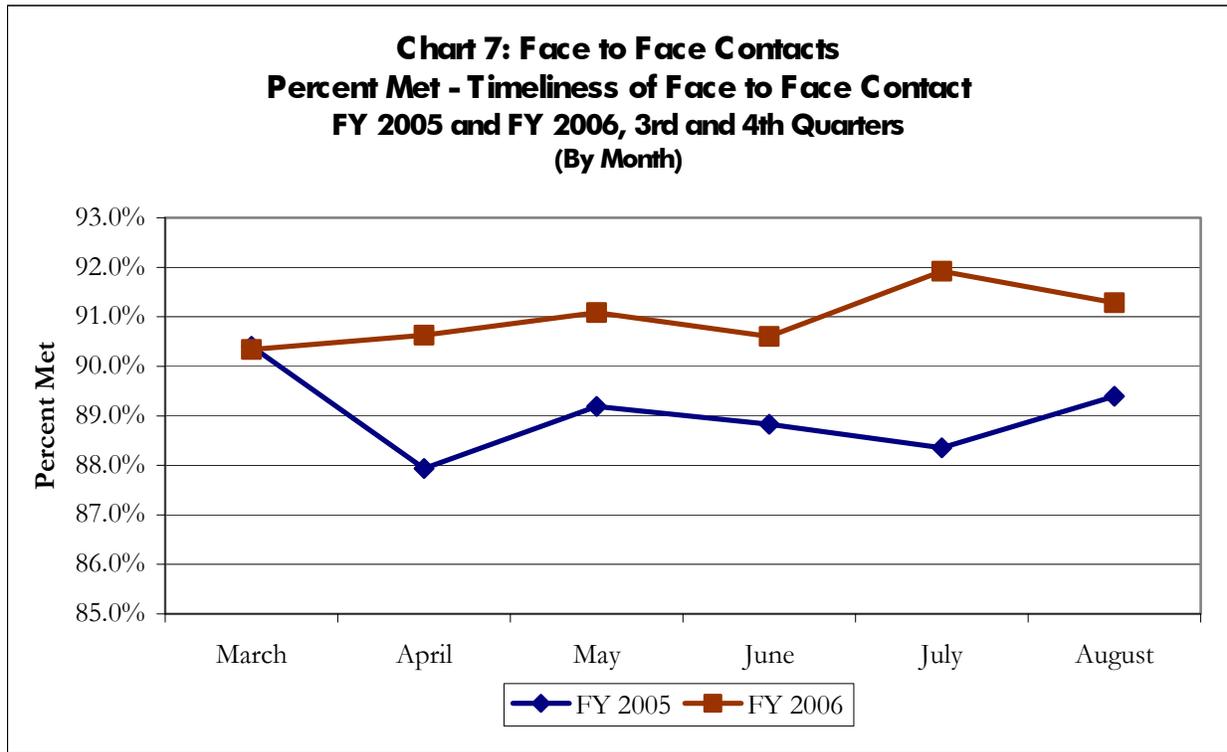
<sup>36</sup> Texas Department of Family and Protective Services (DFPS), APS Policy Handbook, 3200 Face-to-Face Contact, October 2002.

<sup>37</sup> Texas Department of Family and Protective Services (DFPS), APS Policy Handbook, APS Memorandum from Debra Wanser, Policy #05-010R, Revised Policy on Initial Face-to-Face Contact with Client, July 18, 2005.

<sup>38</sup> Texas Department of Family and Protective Services (DFPS), APS Policy Handbook, APS Memorandum from Debra Wanser, Policy #05-010R, Revised Policy on Initial Face-to-Face Contact with Client, July 18, 2005.

<sup>39</sup> Texas Department of Family and Protective Services (DFPS), APS Policy Handbook, APS Memorandum from Debra Wanser, Policy #05-010R, Revised Policy on Initial Face-to-Face Contact with Client, July 18, 2005.

Chart 7 represents the percent of Initial Attempted or Actual Face-to-Face Contacts Met for the 3<sup>rd</sup> and 4<sup>th</sup> Quarters for FY 2005 and FY 2006. . The APS In-Home Performance Goals for “Timeliness of Initial Attempted or Actual Contact” is **91 percent**.



**Highlights of Chart 7:**

For 3<sup>rd</sup> and 4<sup>th</sup> quarter data, FY 2006 has better performance then FY 2005.

- In FY 2005, APS caseworkers had a mean of 89.2% of Initial Attempted or Actual Face-to-Face Contacts Met.
- In FY 2006, APS caseworkers had a mean of 90.6 % of Initial Attempted or Actual Face-to-Face Contacts Met.
- The difference in the mean percent of Face-to-Face contacts made between fiscal years is statistically significant<sup>40</sup>.

<sup>40</sup> SPSS T-Test for Independent Sample: p<= .05

## Conclusion and Next Steps - Mobile Technology Impact on APS In-Home Performance as Measured by Established Metrics

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### Conclusion

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- Overall, for 3<sup>rd</sup> and 4<sup>th</sup> quarter data, FY 2006 has slightly better performance than FY 2005.
  - In FY 2005, APS caseworkers had a mean of 96.1% of 24 Hour Contacts Met.
  - In FY 2006, APS caseworkers had a mean of 96.7% of 24 Hour Contacts Met.
  - The difference in mean percent of 24-hour contacts met between fiscal years is statistically significant<sup>41</sup>.
- For 3<sup>rd</sup> and 4<sup>th</sup> quarter data, FY 2006 has better performance than FY 2005:
  - In FY 2005, APS caseworkers had a mean of 89.2% of Initial Attempted or Actual Face-to-Face Contacts Met.
  - In FY 2006, APS caseworkers had a mean of 90.6 % of Initial Attempted or Actual Face-to-Face Contacts Met.
  - The difference in the mean percent of Face-to-Face contacts made between fiscal years is statistically significant<sup>42</sup>.

### Next Steps

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The APS Mobile Technology Evaluation will not include the following data from this report, but hope it will be included as a data source in subsequent evaluations:

- Include Mobile Technology performance expectations in all recruitment materials and worker job interviews.
- Analyze usage of Mobile Technology, work processes and working conditions in order to establish performance expectations and benchmarks for Tablet PC Usage and data entry timeliness.

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<sup>41</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

<sup>42</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

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**Question 5: What impact has Mobile Technology implementation had on APS client outcomes?**

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**Question 5: What impact has Mobile Technology implementation had on APS client outcomes?**

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**Analysis of Changes in Client Outcomes**

Currently, no Quantitative Client Outcomes Metrics have been established for the APS In-Home Program.

As for Qualitative data, the APS Quality Assurance Specialists began analyzing APS In-Home cases in FY 2006. There is no Fiscal Year comparative information available for this data source.

**Next Steps - Analysis of Changes in Client Outcomes**

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**Next Steps**

The APS Mobile Technology Evaluation will not include the following data from this report, but hope it will be included as a data source in subsequent evaluations.

- APS Client Outcome Metrics
- Qualitative Data from APS In-Home Casereading System

APS will determine which client outcomes need to be measured in order to better link outcomes with mobile technology usage.

Due to the identification of Client Outcomes Metrics in “In Development” status, the APS Mobile Technology Evaluation will not include any data from this report, but hope it will be included as a data source in subsequent evaluations.

## Qualitative Data from APS In-Home Casereading System

The qualitative information used to manage APS Performance comes from APS Quality Assurance (QA) Casereading. The APS Quality Assurance Specialists began analyzing APS In-Home cases in FY 2006 (there is no comparative information available for this data source). They read two cases per worker in their assigned regions or units, and enter the scores into an online QA Casereading System. The Casereading instrument for APS In-Home Program addresses all major policy requirements for Investigation, Process Compliance and Client Outcomes.<sup>43</sup>

Specifically, the Casereading program standards, or items, are goal oriented, focusing on client outcomes as much as possible. Some items are objective, focusing on deadlines met or the presence or absence of certain documentation features. Others call for quality judgments on the part of Quality Assurance Specialists. The items in each program area’s instrument are divided into three broad groups, or scales. These scales are:

- **In-Home**
  - Investigation Scale
  - Process Compliance Scale
  - Client Outcomes Scale

Table 23 looks at the Client Outcome Scale Items from the APS In-Home Casereading System.

<b>Table 23: APS In-Home Case Reading – Client Outcome Scale Items <sup>44</sup></b>	
<b>FY 2006</b>	
<b>Client Outcome Scale</b>	
2.	Enough information was gained about the client during the client initiation contact and a priority change decision was made and acted upon appropriately.
4.	Client emergencies were recognized and handled appropriately.
6.	Re: CARE All risks/problems identified in the investigation were listed, including root cause(s).
19.	Policy was followed if the client refused to cooperate with the investigation, accept or withdrew from services.
20.	CL participated in service planning.
21.	Appropriate services/actions were offered to address each identified problem needing intervention.
23.	Outcomes, including adequacy and quality of delivered services, were evaluated and properly documented.
24.	Re: Monthly Status: Contact was made with/about the client each month per policy and the current status of the client was documented.
26.	Guardianship referral was considered as appropriate.
30.	The client was not in a state of abuse, neglect or exploitation at the time the case was closed because of a lack of APS effort.

<sup>43</sup> Texas Department of Family and Protective Services, APS Performance Orientation Manual, 2007.

<sup>44</sup> Texas Department of Family and Protective Services, APS In-Home Case Reading Tool, FY 2006.

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**Question 6: How have work processes changed since the implementation of  
Mobile Technology?**

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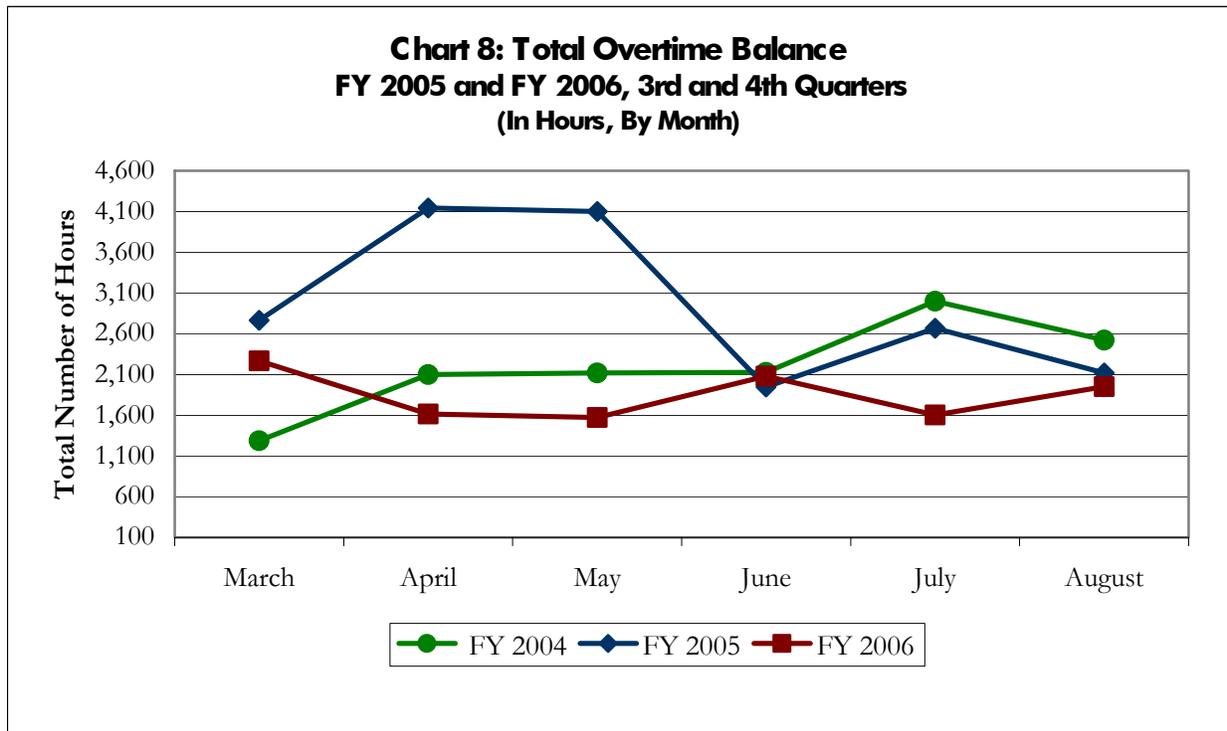
**Question 6: How have work processes changed since the implementation of Mobile Technology?**

**Comparison of How Work Processes Changed**

**Overtime Balance**

Fair Labor Standards Act (FLSA) non-exempt employees accrue overtime any time they physically work more than 40 hours in a workweek (“physically worked” does not include paid holidays or paid leave).<sup>45</sup>

Chart 8 looks at the Overtime Usage of APS Workers by showing the “Overtime Balance (in Hours)”.



**Highlights of Chart 8:**

Chart 8 is the “Overtime Balance (in Hours)” for APS Caseworkers by Month for FY 2004, FY 2005, and FY2006<sup>46</sup>:

- 2,193 hours – FY 2004
- 2,957 hours – FY 2005
- 1,848 hours – FY 2006

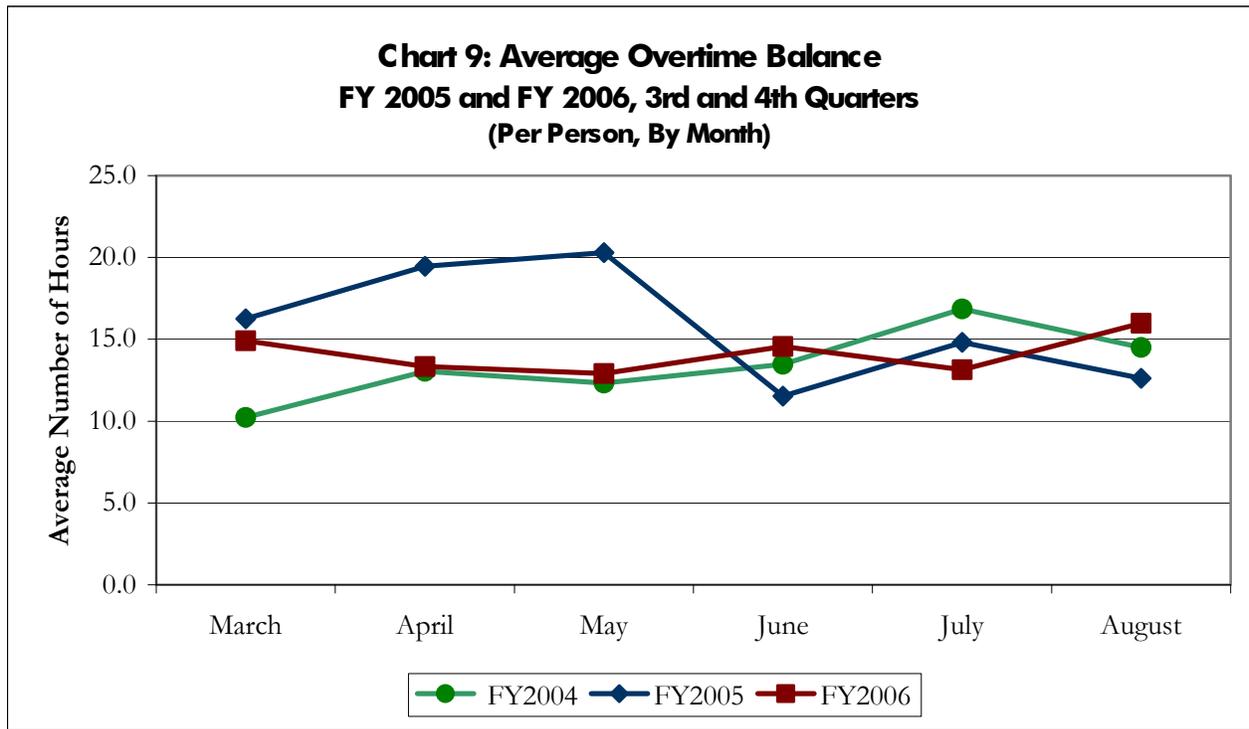
An Analysis of Variance (ANOVA) was performed to test for differences among the three fiscal years.

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter Mean for the three fiscal years is 2,333 hours for Overtime Balance (in Hours).
- There was a significant difference between the time periods<sup>47</sup>.

<sup>45</sup> Texas Health and Human Services (HHS) Commission, HHS Enterprise Human Resource Manual, 2003.

<sup>46</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>47</sup> SPSS Analysis of Variance: p<= .05



**Highlights of Chart 9:**

Chart 9 is the “Average Overtime Balance (in Hours)” for APS Caseworkers by Month for FY 2004, FY 2005, and FY2006<sup>48</sup>:

- 13.6 hours – FY 2004
- 16.1 hours – FY 2005
- 14.2 hours – FY 2006

An Analysis of Variance (ANOVA) was performed to test for differences among the three fiscal years.

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter Mean for the three fiscal years is 14.7 hours for Average Overtime Balance (in Hours).
- There was a significant difference between the time periods<sup>49</sup>.

<sup>48</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>49</sup> SPSS Analysis of Variance:  $p \leq .05$

## APS Tablet PC User Survey

### Responses to the Efficiency and Quality Sections of the Survey

The Efficiency and Quality (the results of this section were covered in a previous portion of the evaluation) section of the survey asked respondents about any benefits they have gained in the time spent documenting casework, conducting more or less fieldwork and any quality improvements they have found using a Tablet PC. Since some new workers to APS have always used a Tablet PC, only those with one or more years of experience in an APS caseworker position were asked questions regarding comparisons to previous methods.<sup>50</sup>

Table 24 represents the changes that occurred between the Survey Period 1 and 2.

<b>Table 24: APS Tablet PC User Survey Quantitative Questions</b>	<b>January 2006 (Survey 1) n=264*</b>	<b>December 2006 (Survey 2) n=324*</b>	<b>% Change</b>
<b>If you have been a caseworker for one year or more, rate the items below for time savings and efficiency regarding the use of the Tablet PC as compared to your previous methods (prior to Tablet PC):</b>			
<b>Travel time savings since receiving the Tablet PC</b>			
Takes longer	3%	9%	↑
No change	61%	47%	↓
Some time savings	27%	31%	↑
Significant time savings	9%	13%	↑

An Analysis of Variance (ANOVA) was performed to test for differences among the frequency of Tablet PC Usage outside the office, and amount of travel time savings respondents reported because of the Tablet PCs:

- For the first survey, respondents who used the Tablet PC outside of the office “every day” were significantly more likely to report “some” or “significant” time savings than those who reported using the PC “a couple of times a week” or a “few times a month”.
- Results on this item for the second survey showed that respondents who used the Tablet PC “every day” were significantly more likely to report “some” or “significant” time savings than were those who reported using the PC “a few times a month”.

<sup>50</sup> APS Tablet PC User Surveys, January and December 2006.

\* The percentages for the survey response will not total to 100%.

\* The percentages for the survey response will not total to 100%.

**New Questions –** The following questions were only asked during Survey Period 2. The responses are included in this document to establish a baseline for subsequent evaluations.

**Responses to the Mobile Casework Section of the Survey**

The Mobile Casework section of the survey asked respondents about the degree to which they felt they were a mobile caseworker. Comments regarding the positive and negatives of this work approach were also requested.<sup>51</sup>

Tables 25 and 26 represents the responses received during the Survey Period 2.

Table 25: APS Tablet PC User Survey Quantitative Questions	December 2006 (Survey 2) n=324*
<b>To what degree do you consider yourself a "mobile caseworker"?</b>	
Not at all – I am completely reliant on using my computer in an office environment	4%
Somewhat – A significant portion of my job is reliant on using my computer on an office environment	21%
Mixed – I am split between my reliance on an office and mobile environments for using my computer	46%
Significant – Almost all of my job responsibilities and computer use are not reliant on an office environment	19%
Completely – I am able to meet all of my job responsibilities and use my computer without reliance on an office	9%

**Highlights of Table 25:**

- 28 percent of respondents to the second survey reported that the degree in which they considered themselves a “mobile caseworker” “significant” and “complete”.
- 46 percent indicated that were “mixed” in their mobile usage.
- 25 percent reported that they still had a significant or complete reliance on using my computer in an office environment.

<sup>51</sup> APS Tablet PC User Surveys, January and December 2006.

\* The percentages for the survey response will not total to 100%.

<p><b>Table 26: APS Tablet PC User Survey</b>  <b>Qualitative Questions</b>                  December 2006 (Survey 2)                  n=324</p>
<p><b>What do you like most about performing casework in a more mobile environment?</b></p>
<p><b>What do you like least about performing casework in a more mobile environment?</b></p>

When asked, **“What do you like most about performing casework in a more mobile environment?”**, the 324 respondents’ answers fell into four main themes:

- Flexibility
- Timeliness of Documentation/Casework;
- Quality of Documentation/Casework; and
- Increased Efficiency and Productivity.

**Flexibility**

Workers described the increased flexibility in a variety of ways, including retrieving and inputting case information in the field, receiving on call cases at home, improving efficiency in travel, and being able to change plans as new cases come in. Many caseworkers appreciate the flexibility to work “anytime”, “anyplace”.

Twenty people of the 324 survey respondents described their ability to access cases and information and complete case documentation from the field as a major benefit.

“Can check my caseload anywhere.”

“I enjoy the portability of the cases, so work can be done whenever I have time.”

“Time effective...Able to be in the field more.”

“Can get CARE [Tool] done in field.”

“Ease of documenting on IMPACT at time of contact is actually being made.”

“The flexibility is the primary venue. It allows me access to the vital information to better provide service.”

“The ease with which work can be done; no need to wait to go to the office to input data; can do it anywhere.”

“I can take my casework with me anywhere and still have the information I need to document my case properly.”

“Being able to access intakes, workload and e-mail in the field.”

### Timeliness of Documentation

The Tablet PCs have increased the Timeliness of Document both in the clients' home or immediately after.  
"The ability to document most of the contacts at the time of the contact."

Several caseworkers said they were, "being able to keep up with documentation", and are more in  
"compliance with documentation deadlines."

"I can complete my documentation within 24 hours."

While several others said, "Being able to immediately input or correct data." has led to what several workers call "faster" documentation.

Others described that they are able to document in the client's home, saying,

"The ability to enter the information while with the client...(it) allows caseworkers to be more productive in the field. Workers don't feel as if they have to rush back to the office to document, because they have accomplished the documentation in the home already."

### Quality of Documentation/Casework

Being able to document more timely has increased the quality of the documentation and time with clients:  
"You are able to record information immediately so that you don't leave out details."

While several workers said that the ability to document "anywhere" and "anytime" enabled them to spend more time with clients in the field and for some workers increased their job satisfaction.

"Greater satisfaction when I am able to complete documentation sooner."

"I am not attached to the office and do spend more time with people in the field."

"Feel I am able to get more done and provide clients with better services."

"We can actually spend more time with our clients in the field."

### Increased Efficiency/Productivity

Many workers talked about their increased efficiency saying:

"Most everything you need is on the PC and you can make the most of your time."

"In case I receive a case then I could get into my workload when I am away from the office."

"Accessible, easy to use, do not have to drive and waste time going to the office, less time on telephone trying to get additional case information when out in the field. Can get work done right then."

Other workers said they could progress a case to service more quickly:

"When I do [casework] the way it should be done the case is just about ready for moving to the next stage."

Others described the ability to organize their travel improving their efficiency, saying:

"Allows more efficiency with travel."

"The ability to organize and view my caseload into geographic areas helps with travel length."

Several workers said that their increased efficiency has increased their productivity:

"I can complete documentation quickly and see more clients, therefore being more productive."

Twenty-five caseworkers of the 324 survey respondents said that they are more productive because they can work more effectively outside the office:

“I like the fact that I can take it home and work there where I am not interrupted near as much.”

“Less stressful environment, i.e. I can work at the roadside park, in my car, or at a restaurant, away from phones and other interruptions.”

“It breaks up doing work in only one environment. The change of pace is nice. Sometimes it is easier to focus in a different place.”

“Not having to come to the office and redo what was done in the field.”

Several caseworkers said that the Tablet PC made them feel more connected:

“Feels connected like I’m in my office anywhere.”

“I feel more connected to resources, support and information.”

Ten caseworkers said that having VPN at home helped them be more productive:

“I like that fact that I have VPN because I can get caught up on work at home.”

“I can take my casework home. It makes for more flexible work environment for a stressful job.”

Workers also described being about to receive on-call cases and reprioritize work as calls come in:

“I think it is helpful when a person is on call rather than having SWI read the calls to you. You can access the info at home.”

“You have the option and flexibility to see clients when you need to. The flexibility allows for when you receive a P1 while on your way to do a monthly status. And, you have your Tablet PC right there in the car to make the notes and changes to a case if needed. This keeps me from letting something that needs to be done in a case slip my mind and helps me to stay on top of my cases.”

When asked, **“What do you like least about performing casework in a more mobile environment?”** nearly one third of the respondents of the 324 survey respondents said nothing/NA or that they like being mobile. Other respondents reported what they liked least include five major themes including:

- Equipment hardware/software,
- Equipment portability/management,
- Safety,
- Culture change/expectations and
- Client rapport.

#### **Equipment Hardware/Software**

Workers reported that they continue to have issues with wireless, size of the screen and keyboard.

“Not having access to wireless.”

“Connecting and the speed of the wireless card. Very unreliable for the rural worker. However, the speed is very slow in my home as well.”

“Voice recognition.”

“Screen is small, my eyes hurt.”

“Portable keyboard awkward.”

“Hardware, software, LAN nor functioning properly.”

“There is not signal in some towns and we are so used to using paper that it is sometimes difficult to remember that the tablet is just like a piece of paper.”

“False sense of information/access to workload in rural areas.”

“Glare on the screen.”

#### **Equipment Portability/Management**

“It is a lot of stuff to carry around if you are going very far from the office.”

“Packing up all the cords, tablet, camera, etc.”

“I want the correct carrying case.”

“The wear and tear on the equipment.”

“Having to carry and be responsible for a lot of equipment out in the field.”

### Safety/Security

Respondents made a variety of comments about safety and security for people, equipment and data.

“Possibility of being robbed for our equipment.”

“The security of the tablet if unable to use in the client’s home; safety of the item.”

“ Finding places to use it. Coffee shops are good. I also use bank parking lots, I park near the security officer that is on duty outside.”

### Culture Change/Expectations

Several respondents described how expectations needed to be clarified and reviewed saying,

“I think expectations are too great just because there is mobile technology. You can get some things in but thinking that everything can be done next day seems unrealistic to me.”

“There is not time to get away from your work.”

“I am away from the office more. That transitions to more phone calls when I return. If there was a way to make the cellular phone the office phone it would provide connectivity any where in the field.”

### Client Rapport

Several respondents described not feeling comfortable using the Tablet PC while interviewing clients saying,

“Writing in the client’s home hinders interaction.”

“It may work for younger client’s but the elderly don’t like them.”

“Difficult to concentrate on interview and writing.”

“Some clients don’t trust technology.”

## Conclusion and Next Steps - Comparison of How Work Processes Changed

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### Conclusion

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#### Overtime

- “Overtime Balance (in Hours)” for APS Caseworkers by Month for FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>52</sup>:
  - 2,193 hours – FY 2004
  - 2,957 hours – FY 2005
  - 1,848 hours – FY 2006
  - There was a significant difference between the time periods<sup>53</sup>.
- “Average Overtime Balance (in Hours)” for APS Caseworkers by Month for FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>54</sup>:
  - 13.6 hours – FY 2004
  - 16.1 hours – FY 2005
  - 14.2 hours – FY 2006
  - There was a significant difference between the time periods<sup>55</sup>.

#### Mobile Caseworker

- 28 percent of respondents to the second survey reported that the degree in which they considered themselves a “mobile caseworker” “significant” and “complete”.
- 46 percent indicated that were “mixed” in their mobile usage.
- 25 percent reported that they still had a significant or complete reliance on using my computer in an office environment.

#### “What do you like most about performing casework in a more mobile environment?”

The 324 respondents’ answers fell into four main themes:

- Flexibility
- Timeliness of Documentation/Casework;
- Quality of Documentation/Casework; and
- Increased Efficiency and Productivity.

#### “What do you like least about performing casework in a more mobile environment?”

Nearly one third of the respondents of the 324 survey respondents said “Nothing/NA” or that they like being mobile. Other respondents reported what they liked least include five major themes including:

- Equipment Hardware/Software,
- Equipment Portability/Management,
- Safety,
- Culture Change/Expectations; and
- Client Rapport.

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<sup>52</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>53</sup> SPSS Analysis of Variance:  $p \leq .05$

<sup>54</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>55</sup> SPSS Analysis of Variance:  $p \leq .05$

## Next Steps

The APS Mobile Technology Evaluation will not include the following data from this report, but hope it will be included as a data source in subsequent evaluations.

- Qualitative Data from APS In-Home Casereading System

## Qualitative Data from APS In-Home Casereading System

The qualitative information used to manage APS Performance comes from APS Quality Assurance (QA) Casereading. The APS Quality Assurance Specialists began analyzing APS In-Home cases in FY 2006 (there is no comparative information available for this data source). They read two cases per worker in their assigned regions or units, and enter the scores into an online QA Casereading System. The Casereading instrument for APS In-Home Program addresses all major policy requirements for Investigation, Process Compliance and Client Outcomes.<sup>56</sup>

Specifically, the Casereading program standards, or items, are goal oriented, focusing on client outcomes as much as possible. Some items are objective, focusing on deadlines met or the presence or absence of certain documentation features. Others call for quality judgments on the part of Quality Assurance Specialists. The items in each program area's instrument are divided into three broad groups, or scales. These scales are:

- **In-Home**
  - Investigation Scale
  - Process Compliance Scale
  - Client Outcomes Scale

Table 27 looks at the Process Compliance Scale Items from the APS In-Home Casereading System.

<b>Table 27: APS In-Home Case Reading – Process Compliance Scale Items <sup>57</sup> FY 2006</b>	
<b>Process Compliance Scale</b>	
5.	Policies were followed after an initial face-to-face attempt failed or at any time during the course of the case when the client became unavailable.
7.	Re: CARE Scores were appropriately explained and justified in the narrative.
16.	Re: Conclusion Justification Conclusions on allegations involving an alleged perpetrator are shown to be supported by the evidence and in keeping with Chapter 48 definitions of abuse, neglect, and exploitation.
17.	Timely notifications were made: Probate court, DP of intent to release findings, CL of domestic violence information, law enforcement, licensing boards, DADS, DP's employer, Adult Fatality Review Team.
18.	Decision to progress or not progress the case was appropriate.
22.	Client and community resources were explored (and online supervisor's approval "save/submit" was obtained if required by policy) before ECS expenditures were approved. The ECS documentation was completed properly and on time.
25.	CL was informed of closure. (investigation or service delivery)
27.	Legal Actions: The legal action/outcome window was completed, supervisor approval was obtained for each action, consultation with regional attorney was attempted and the action was considered the least restrictive alternative.
28.	Narrative documentation placed in IMPACT told the complete story of the case.
29.	Essential data/detail information was captured in IMPACT according to policy.

<sup>56</sup> Texas Department of Family and Protective Services, APS Performance Orientation Manual, 2007.

<sup>57</sup> Texas Department of Family and Protective Services, APS In-Home Case Reading Tool, FY 2006.

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**Conclusion**

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## Conclusion

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The Adult Protective Services (APS) program is the first Texas Health and Human Services organization to complete a large-scale mobile computing initiative. Nationally, APS is the first Adult Protective program to incorporate Tablet PCs into the day-to-day aspects of casework. The purpose of the APS Mobile Technology Initiative is to provide greater efficiency and flexibility to caseworkers, allowing case documentation and information access from the field.

To accomplish this, a mobile version of the case management system (IMPACT) was developed to allow access to key case details without relying on a wireless connection. This application, Mobile Protective Services (MPS), allows caseworkers to “check out” cases they need to use in the field, and then, “check in” all information they have documented at a later time. All Tablet PCs also are equipped with a wireless card intended for intermittent network access from the field.

At this time, the distribution of all APS caseworker Tablet PCs has been completed. Currently, 579 In-Home caseworkers have received their Tablet PCs since the initial APS In-Home Tablet PC Implementation in September 2005. Even though the implementation process is complete, the project is far from over.

The technologies being allocated (e.g. Tablet PCs, XP Operating System, Wireless Broadband cards) are all very new and cutting edge tools. DFPS is continuing to learn how best to support these users through timely resolution of problems and on-going communication and training needs. The APS Assistant Commissioner, Debra Wanser, has explained this type of major change as, “a process, not an event”. The results in this report represent where DFPS and APS are today, and show a path towards a new approach to casework when these new tools are fully maximized.

There were several limitations that emerged in performing the DFPS APS In-Home Mobile Technology Evaluation. During the Mobile Technology Implementation Phase (3<sup>rd</sup> Quarter Fiscal Year 2005), some of the survey responses may have been impacted due to the short time frame in which users had their Tablet PCs, and the complex nature of the Tablet PC functionality. However, the conclusion of the APS Mobile Technology Phase II (Full Caseworker Distribution) Preliminary Assessment Report, which is referenced in the **Qualitative Analysis** of the evaluation, includes recommendations to address all areas of concern. At the same time as the mobile technology deployment, agency changes were instituted during the overall APS Renewal, which included, but limited to, improvements in Training, Client Outcomes, Staffing, Community Engagement, Caseload Management, and Performance Management. These elements limit the DFPS’ ability to directly attribute an improvement in practice to the implementation of Mobile Technology. Also, data provided in this report can be influenced by seasonal changes in intake rates and therefore any dips or spikes in intake rates may not have been influenced by changes in mobile technology.

At the conclusion of the DFPS In-Home APS Mobile Technology Evaluation, the document intends to enable external and internal DFPS policy makers and Program Managers to demonstrate performance; discover where improvements could be made to design or delivery methods; identify good practice and lessons for the future, and above all, be a positive learning experience. The DFPS In-Home APS Mobile Technology Evaluation findings are expected to impact on APS policy decisions and enhance the implementation of Mobile Technology.

## Examine Mobile Technology Usage

This section of the evaluation examines Mobile Technology usage patterns of the APS In-Home Staff. In addition, two support resources: Technical Support and SpeakWrite were also studied to look at how these services influenced the utilization of Mobile Technology.

### Patterns in Mobile Technology Usage

- The percentage of those who use the Tablet PC outside of the office “every day” increased, and those who use it “a few times a month” or “never” decreased between the first and second survey.
- APS In-Home Staff said that they use the Tablet PC in their “home” and in the “car” most often.
- More than half of respondents are using the Tablet PC in the client’s home.
- Respondents who used the Tablet PC “every day” or “a couple of times a week” were more likely to take the Tablet PC into a client’s home.
- Workers who had worked for APS less than one year were significantly more likely to take the PC into a client’s home.
- “Every day” were significantly more likely to use the Tablet PC in a “client’s home” than those who used it “a couple of times a week”, “a few times a week” or “never”. (This indicated that frequent usage outside the office increased the likelihood that a caseworker will use the mobile technologies in a “client’s home”).
- Of those respondents who do not use (or rarely use) the Tablet PC in the client’s home or other investigative location, they commented that they had issues with building rapport with clients, having clients finding the Tablet PC distracting, and not having a place to use the Tablet PC in some locations. In addition, respondents feel uncomfortable taking the Tablet PC into unknown situations, using the equipment with clients with mental illness or bringing it out in unsafe neighborhoods.
- 53% of respondents to the second survey reported that when they used their Tablet PC in the client’s home or other investigative location, the reactions received were “positive” or “no reaction”.
- 13% reported when using the Tablet PC in a client’s home or other investigative location, the reactions received were “negative”.

### Wireless Connectivity

- Respondents to both surveys most often identified “Wireless Connectivity” as the biggest barrier to productive use of mobile technologies.
- Those who have worked for APS less than one year were significantly more likely to report that they use e-mail and Internet when connected wirelessly. They also were more likely to report that they access the IMPACT applications briefly.
- Those who used the Tablet PC outside the office “every day” were significantly more likely to use the PC to perform MPS synchronizations and check cases in and out with from IMPACT to MPS.
- Those who reported that they “never” use the PC outside of the office were significantly less likely to report working in IMPACT by entering information.
- 53 percent of respondents during Survey 1 report they “Agree” or “Strongly Agree” that they are satisfied with their ability to wireless from home as compared to 56 percent during Survey 2.
- 26 percent of respondents during Survey 1 and 25 percent during Survey 2 “Disagreed” or “Strongly Disagreed” that they were satisfied with the wireless service from their homes. This is significant given that APS is moving towards a more mobile environment.
- Workers who are able to use wireless state that it enables them to access cases, information, create maps and connect with other workers and their supervisors. Wireless has increased casework flexibility and has improved the quality of their casework and documentation. Those who have access to wireless, and express that it aids effective fieldwork.
- Many workers do not have access to wireless in rural areas, have sporadic wireless connections or the connection is too slow for many. Respondents report losing data when the connection goes down, and other technical issues include the battery life, and the time it takes to get the equipment fixed.
- Several workers indicate that wireless problems reduce casework efficiency and productivity.

### **Mobile Protection Services**

(From the results of the APS In-Home Tablet PC User Surveys)

- 88% of respondents to the second survey reported using MPS application to various degrees.
- 12% report not using the MPS application.
- Caseworkers had three main suggestions to expand the functionality of MPS including allowing workers to enter all of their contacts, complete the Allegation window/Investigation Conclusion windows, and access the “Persons” list.

### **Technical Support**

- In the second survey, approximately 50 percent of respondents reported that the CSC and Help Desk provided good service.
- Approximately 30 percent of respondents reported moderate service quality (Survey Period 2).

### **SpeakWrite Services**

- There was a slight increase in “Total Number Staff Using SpeakWrite” and “Total SpeakWrite Words Dictated per Call” from FY 2005 and FY 2006.
- Staff reported 60% using the SpeakWrite, and 40% not utilizing the service.
- When asked about suggestions to make use of the SpeakWrite service more valuable, the majority of respondents did not have any suggestions and reported that SpeakWrite is a valuable tool.
- There is a strong desire to maintain this service as a complement to the Tablet PCs.

## **Measure Changes in Efficiencies**

### **Timeliness of Data Entry – 24 Hour Contacts**

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter data for FY 2005 has a wider range compared to FY 2006:
  - In FY 2005, the days to record 24 Hour Contacts ranged from a low of 7.9 to 30.7 days.
  - In FY 2006, the days to record 24 Hour Contacts stayed between 12.7 and 16.9 days.
- The mean days to record 24 Hour Contacts:
  - 18.6 days – FY 2005
  - 15.3 days – FY 2006

### **Timeliness of Data Entry – Face to Face Contacts**

- The 3<sup>rd</sup> and 4<sup>th</sup> Quarter data for FY 2005 has a wider range compared to FY 2006:
  - In FY 2005, the days to record Face-to-Face Contacts ranged from a low of 13.5 to 46.6 days.
  - In FY 2006, the days to record 24 Hour Contacts stayed between 20.6 and 25.9 days
- The mean days to record Face-to-Face Contacts:
  - 30.6 days – FY 2005
  - 22.9 days – FY 2006

### **Average Number of Days Between Intake to Completion**

- For FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters, the average days increased:
  - 33.1 days – FY 2004
  - 40.9 days – FY 2005
  - 49.1 days – FY 2006

### **Efficiency of Casework Due to Tablet PC**

(From the results of the APS In-Home Tablet PC User Surveys)

- In Survey Period 1, respondents who used the Tablet PC outside of the office “every day” were more likely to report some or significant time savings in completion of documentation than were those who reported using the PC “a couple of times a week”, “a few times a month” or “never”.
- In Survey Period 2, respondents to the second survey who reported using the Tablet PC “every day” were significantly more likely to report some time savings than those who did not.
- For both of the surveys, those who had worked for APS for less than one year were more likely to report some time savings.
- However, there was not a significant difference between less tenured and more tenured workers for Survey Period 2.

### **Same Day Documentation**

- 84 percent of respondents to the second survey reported the ability to complete same day documentation for key case information using their Tablet PCs.
- The case actions identified as most often documented on the same day were:
  - 67% - Case Initiation
  - 61% - Face-to-Face Contacts
- The CARE Tool was designed specifically for use in the client’s home and in the field. 46% of the respondents reported that the CARE Tool was completed on the same day.
- When asked what barriers respondents experienced regarding same day documentation, the three main reasons for not documenting the same day were the time it takes to document, high caseloads, and functionality issues - particularly wireless connectivity.

### Assess Documentation Quality Changes

- Between the first and second survey, there was an increase in the percentage of respondents who reported “some” or “significant” improvement in the quality of their casework because of the Tablet PCs.
- In Survey 1, respondents who used the Tablet PC outside of the office “every day” were more likely to report some improvement in casework quality than those who reported using the PC “a few times a month” or “never”.
- In Survey 2, those who used the Tablet PC “every day” were significantly more likely to report some improvement in casework quality than those who reported using the PC “a few times a month” or “never”.
- For both of the surveys, those who had worked for APS for less than one year were significantly more likely to report some improvement in casework quality.

### Identify Mobile Technology Impact on APS Performance as Measured by Established Metrics

- Overall, for 3<sup>rd</sup> and 4<sup>th</sup> quarter data, FY 2006 has slightly better performance than FY 2005.
  - APS In-Home caseworkers had a mean of 96.1% of 24 Hour Contacts Met in FY 2005 compared to 96.7% in FY 2006.
  - The difference in mean percent of 24-hour contacts met between fiscal years is statistically significant<sup>58</sup>.
- For 3<sup>rd</sup> and 4<sup>th</sup> quarter data, FY 2006 has better performance than FY 2005:
  - APS In-Home caseworkers had a mean of 89.2% of Initial Attempted or Actual Face-to-Face Contacts Met in FY 2005 compared to 90.6% in FY 2006.
  - The difference in the mean percent of Initial Attempted or Actual Face-to-Face contacts made between fiscal years is statistically significant<sup>59</sup>.

### Analyze Changes in Client Outcomes

- Currently, no Quantitative Client Outcomes Metrics have been established for the APS In-Home Program.
- As for Qualitative data, the APS Quality Assurance Specialists began analyzing APS In-Home cases in FY 2006. There is no Fiscal Year comparative information available for this data source.
- APS will determine which client outcomes need to be measured in order to better link outcomes with mobile technology usage.

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<sup>58</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

<sup>59</sup> SPSS T-Test for Independent Sample:  $p \leq .05$

## Compare How Work Processes Changed

### Overtime

- “Overtime Balance (in Hours)” for APS Caseworkers by Month for FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>60</sup>:
  - 2,193 hours – FY 2004
  - 2,957 hours – FY 2005
  - 1,848 hours – FY 2006
  - There was a significant difference between the time periods<sup>61</sup>.
- “Average Overtime Balance (in Hours)” for APS Caseworkers by Month for FY 2004, FY 2005, and FY2006, 3<sup>rd</sup> and 4<sup>th</sup> Quarters<sup>62</sup>:
  - 13.6 hours – FY 2004
  - 16.1 hours – FY 2005
  - 14.2 hours – FY 2006
  - There was a significant difference between the time periods<sup>63</sup>.

### Mobile Caseworker

(From the results of the APS In-Home Tablet PC User Surveys)

- 28 percent of respondents to the second survey reported that the degree in which they considered themselves a “mobile caseworker” “significant” and “complete”.
- 46 percent indicated that were “mixed” in their mobile usage.
- 25 percent reported that they still had a significant or complete reliance on using my computer in an office environment.

### “What do you like most about performing casework in a more mobile environment?”

(From the results of the APS In-Home Tablet PC User Surveys)

The 324 respondents’ answers fell into four main themes:

- Flexibility
- Timeliness of Documentation/Casework;
- Quality of Documentation/Casework; and
- Increased Efficiency and Productivity.

### “What do you like least about performing casework in a more mobile environment?”

(From the results of the APS In-Home Tablet PC User Surveys)

Nearly one third of the respondents of the 324 survey respondents said “Nothing/NA” or that they like being mobile. Other respondents reported what they liked least include five major themes including:

- Equipment Hardware/Software,
- Equipment Portability/Management,
- Safety,
- Culture Change/Expectations; and
- Client Rapport.

<sup>60</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>61</sup> SPSS Analysis of Variance:  $p \leq .05$

<sup>62</sup> APS Tablet PC Users: Job Codes: 5023Z, 5024Z, 5025Z, 5026Z and 5027A.

<sup>63</sup> SPSS Analysis of Variance:  $p \leq .05$

## Next Steps

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The APS Mobile Technology Evaluation will not include the following data in this report, but hope it will be included as a data source in subsequent evaluations:

- Tablet PC Synchronization Report
- Tablet PC Check-In/Check-Out Report
- Wireless Connectivity Report
- Mobile Technology Usability Study
- Help Desk
- Qualitative Data from APS In-Home Casereading System
- APS Client Outcome Metrics
- Mobile Technology Performance Expectations and Benchmarks for Tablet PC Usage and Data Entry Timeliness

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**Recommendations**

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## Recommendations

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Based on the APS In-Home Mobile Technology Evaluation findings, the following recommendations are proposed to enhance the utilization of Mobile Technology, guide APS policy decisions and improve APS In-Home direct delivery services:

- Analyze usage of Mobile Technology, work processes and working conditions in order to establish performance expectations and benchmarks for Tablet PC Usage and data entry timeliness.
- Research usability, environmental and technical resources that could expand solution and/or address barriers (e.g., finger print reader, natural handwriting directly into applications).
- Study work processes and working conditions in order to establish guidelines for when workers should and should not use the Tablet PC and accessories in client or collateral interviews outside a DFPS office.
- Make necessary policy changes in the APS In-Home Program to enhance and support the use of the Mobile Technology solution.
- Include Mobile Technology performance expectations in all recruitment materials and worker job interviews.
- Develop and disseminate Best Practices for Mobile Technology.
- Incorporate best practices into guidelines for supervisors' use in instilling sound workload management strategies in new workers.
- Examine performance of workers using MPS frequently and determine if there is any significant improvement over workers not using this application.
- Expand MPS functionality so that workers can complete more of the case information when using the MPS format.
- Make changes in IMPACT to increase efficiency of use during client and collateral interviews (ex: drop down boxes for the CARE tool).
- Explore alternative voice recognition software to determine if it can be made more functional. Continue SpeakWrite services to help workers complete their documentation timely in the interim.
- Improve user support efforts to ensure staff has operational equipment in a timely manner.
- Redesign worker training to address the complete role of mobile casework, including a greater focus on development of skills for use of mobile technology in client and collateral interviews.
- Provide training to supervisors to increase supervisor knowledge of mobile technology.
- Identify resources to provide on-going training, skills development and coaching to tenured workers.
- Address issues relating of wireless connectivity and speed by exploring further broadband technology/cards so that rural workers be connect wirelessly.
- Identifiers should be added to the Tablet PC survey so that the relationship between mobile technology usage, overtime balances, travel expenditures, and process compliance can be explored, and however, data should only be reported in the aggregate.
- The Mobile Technology Evaluation should be conducted annually, and include data that was not available during the first evaluation.
- Data sources from the first evaluation need to be reviewed and reports developed to increase the data quality and reportability.
- Possible confounding or interaction variables should be determined by stratified or logistic regression analysis to isolate direct positive or negative effects of the implementation of Mobile Technology.