

The Case for the Tablet PC in Health Care

Based on a Microsoft White Paper

Abstract

In today's demanding, fast-paced, and mobile medical world, we can't always have access to a desktop computer and paper patient charts. The result – a lack of information and resources, often at critical moments -- is a primary cause of problems or delays in providing optimal patient care, and contributes to inefficient work flow. In addition, being forced to work with paper can result in manual data entry, lost patient information, and an increase in medical errors.

The Tablet PC, with its versatile form that supports pen navigation, and the capability to write directly on the screen and convert to printed text, offers today's mobile health care workers the ability to revolutionize the ways they work by making it easy to capture, access, and use information wherever the job takes them.

For health professionals, the Tablet PC provides unmatched access to critical information while on the go, and the ability to naturally record and securely share patient information and ideas.

The Tablet PC enhances productivity while providing full functionality to the user in any situation. In addition to slate mode, the Tablet PC can be attached to a docking station and used as a desktop or as a notebook PC, whichever option is most convenient. Regardless of form factor, the Tablet PC runs all of the applications available for Microsoft® Windows® XP-based computers. And, by enabling input from a digital pen, the Tablet PC makes health professionals more productive with the software they use everyday.

Introduction

In the last few years, expectations about patient privacy information, medical services, data retention, and health care provider availability have risen dramatically. These expectations have been largely driven by the regulations, and many hospitals and medical practices have responded by adopting strategic initiatives to increase worker mobility, enabling them to work more closely with patients and with peers. Overall, the independent market analyst, IDC, estimates that as many as 105 million workers will be considered mobile workers by 2006.

Despite the drive to increase mobility and to move to an electronic medical record system, many organizations continue to rely on paper patient records, insurance forms, written prescriptions, and hard copy diagnostic images, including MRIs, ultrasound and film x-rays. This dependency on paper and hard copy can cause gaps in patient information, especially when health professionals need to work outside the office. New Health Insurance Portability and Accountability Act (HIPAA) patient privacy regulations have added another layer of complexity and recordkeeping.

Forward-thinking health care providers have armed their mobile workers with notebook PCs and personal digital assistants (PDAs) to provide them access to information while away from their office computers.

The Tablet PC combines the best features of paper, notebook PCs, and PDAs. It provides users with a complete solution to mobile computing, eliminating the trade-offs mobile users were forced to make in the past.

As the latest step in the evolution of notebook computing, the Tablet PC is one of the most versatile and powerful mobile computers available. Optimized for mobile computing, Tablet PCs provide access to the full functionality of the Microsoft® Windows® XP Professional operating system and allow health professionals to interact more efficiently with their computers via a digital pen in addition to the keyboard and mouse. Many programs used every day, such as the Microsoft Office System, have been enhanced with the capability to write directly on the screen available only to the Tablet PC use.

The Tablet PC can also be used with a docking station when at the office or as a notebook PC when a keyboard is needed. This flexibility allows health care professionals to operate in the most efficient mode regardless of the situation, resulting in better record-keeping and better patient care. This white paper documents how HP Tablet PC users are adding value to health care, and the key performance indicators (KPIs) used to track this value.

All of the solutions described in this paper are commercially available and can be implemented in any organization today.

What does the HP Tablet PC offer for health care?

Tablet PCs allow health care professionals of all levels to be more efficient and accurate in their day-to-day activities by enhancing their ability to perform a variety of tasks, both at their desks or on the go.

Examples of activities that can be improved include:

- Collection and Integration of Patient Data
- Patient Record Retrieval, Review and Collaboration,
- Meetings
- House calls and patient bedside visits
- Wireless interaction among staff and physicians

These activities all involve basic tasks, which are made easier by the HP Tablet PC. Some examples are:

- Completing electronic forms or “writing” prescriptions
- Taking progress notes in handwriting that can be converted to printed text
- Adding handwritten notes to charts and images
- Integrating several reports, such as tests and treatment plans, into one document
- Sharing data via a secure wireless LAN

The key features behind these benefits are:

- The versatility of the HP Tablet PC, which allows data entry from a keyboard, a digital pen, or dictation
- The Tablet digital pen for navigation and writing
- The capability to write directly on the screen available in Microsoft Windows XP Professional, Microsoft Windows XP Tablet PC Edition, the Microsoft Office System, and many other business software packages
- The Tablet PC software development kit (SDK), which allows companies and software developers to easily add ink capabilities to existing business software
- The wireless and infrared capabilities built into the HP Tablet PC
- Audio technology for recording and dictation

Collection and Integration of Patient Data

A health care worker using a Tablet PC can enter data directly into an electronic form via an Electronic Health Record (EHR). This not only saves the time previously required to fill out a paper form and then re-enter the data into a computer, but also eliminates the human error inherent in this process.

When conducting examinations, patient reviews, treatments, or rounds, the HP Tablet PC can provide immediate access to information. Additionally, the capability to write directly on the durable tempered glass screen permits capturing useful information, such as progress notes, diagrams or images in an electronic format, and then annotating them, ensuring that no information is lost. When completed, a full report can be generated on the spot.

Table 1. HP Tablet PCs Take the Work Out of Health Care Data Collection		
Health care workers produce records and reports more accurately and efficiently when using an HP Tablet PC to collect data directly into electronic formats.		
Data collection issue	HP Tablet PC benefit	Key Performance Indicator
Manage complicated information from several sources	<ul style="list-style-type: none"> Information from several sources can be accessed via wireless connection, 	<ul style="list-style-type: none"> Reduced Overhead Increased Productivity Reduced Medical Errors
Accuracy under stress and a tight schedule	<ul style="list-style-type: none"> Capture data on electronic forms Eliminates the delay between data collection and use 	<ul style="list-style-type: none"> Reduced Cycle Time Reduced Medical Errors
Need access to patient charts and medical references quickly	<ul style="list-style-type: none"> Reference materials stored on HP Tablet PC Easily accessed during diagnosis and treatment 	<ul style="list-style-type: none"> Increased Productivity Reduced Medical Errors
Difficult to capture visual information	<ul style="list-style-type: none"> Integrated cameras and ability to “write” on the screen makes including images or sketches simple 	<ul style="list-style-type: none"> Reduced Medical Errors Increased Productivity
Expense of transcription costs and maintaining paper files	<ul style="list-style-type: none"> All information is captured electronically and easily accessible Facilitates transition to electronic patient records 	<ul style="list-style-type: none"> Reduced Medical Errors Reduced Overhead Reduced transcription costs

Patient Chart Retrieval, Review and Collaboration

The Tablet PC assists with document creation, editing and collaboration. The capability to write directly on the screen allows health professionals to share a broad range of information regardless of whether it is in the form of notes, sketches, or document annotations. These “ink capabilities” built into the Microsoft Office System add to the value that can be gained by these programs when used on a Tablet PC.

Additionally, capturing this information in a digital format makes it easier to transmit, store, find, and use. And the HP Tablet PC replaces the use of handwritten notes on printouts, which can be easily lost or overlooked.

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Table 2. HP Tablet PC Improves Collaboration Among Care Givers

Health-care workers improve their ability to share critical patient information when using the HP Tablet PC ink capabilities to annotate documents and make quick sketches and diagrams.

Collaboration issue	HP Tablet PC benefit	Key Performance Indicator
Difficult to collaborate on graphics	<ul style="list-style-type: none"> On-screen sketches quickly communicate graphics ideas 	<ul style="list-style-type: none"> Increased Productivity Increased accuracy
Difficult to share comments on electronic information	<ul style="list-style-type: none"> Handwritten annotations are quickly added on top of documents, images, and graphics and can be shared immediately Replaces printouts or faxes that can be lost 	<ul style="list-style-type: none"> Knowledge Retention Reduced Document Cycle Time More complete documentation
Comments written on paper are easily overlooked or lost	<ul style="list-style-type: none"> Comments can be added directly to the electronic document 	<ul style="list-style-type: none"> Knowledge Retention
Difficult to review patient charts, test results, while traveling	<ul style="list-style-type: none"> Form factor enables work to continue regardless of location Eliminates work on paper copies 	<ul style="list-style-type: none"> Increased Productivity Reduced Document Cycle Time

Meetings

Health care workers spend significant amounts of time attending meetings. In many locations, a notebook PC is not encouraged in meetings because they are noisy and reduce interaction.

Even when notebook PCs are allowed at meetings, participants often elect to use the more natural method of pen and paper to take notes. The notes must then be typed before they can be shared with and used by the rest of the team.

The HP Tablet PC allows health care professionals to take notes just as they would on a pad of paper without the noise of a keyboard or the barrier of an intrusive screen. Notes can be taken using Microsoft Windows Journal or other programs with the capability to write directly on the screen such as the Microsoft Office OneNote® note-taking program. The notes can either be converted to text or saved as handwriting, but either way the HP Tablet PCs search capabilities enable users to find and reference meeting details when they are needed.

In addition to note taking, the Tablet PC user can access other programs to make the meeting more effective.

Table 3. HP Tablet PCs Help Health Care Workers Get More Out of Meetings

Health care workers who use an HP Tablet PC in meetings can access information more easily—helping improve decision-making and communication efficiency.

Meeting issue	HP Tablet PC benefit	Key performance indicator
Meeting notes are incomplete	<ul style="list-style-type: none"> • Easy to record conversation as a supplement to notes 	<ul style="list-style-type: none"> • Knowledge Retention
Can't find information in notes	<ul style="list-style-type: none"> • Electronic notes are fully searchable - including handwritten notes 	<ul style="list-style-type: none"> • Increased Productivity • Reduced Errors • Knowledge Retention
Notes cannot be shared immediately	<ul style="list-style-type: none"> • Notes taken electronically are available immediately • Do not need to be typed later 	<ul style="list-style-type: none"> • Reduced Cycle Time • Increased Productivity
Difficulty responding to questions	<ul style="list-style-type: none"> • Quick access to additional resources through handwritten-enabled e-mail and instant messaging 	<ul style="list-style-type: none"> • Reduced Errors • Increased Productivity
Missing necessary information to make decisions	<ul style="list-style-type: none"> • Quick access to all user files and software programs with pen navigation and gestures 	<ul style="list-style-type: none"> • Reduced Meeting Time

House Calls and Patient Visits

Nursing teams and other home health care workers are frequently reluctant to bring their notebook PCs to home visits or into patient bedside meetings because the computers are bulky, they require a table to use, and the screen can act as a barrier between the care giver and the patient. The HP Tablet PCs solve these problems by being:

- Lightweight
- Easily operated while the care giver is standing
- Comfortable and natural to use while holding in their lap
- Flat, similar to a pad of paper or a clip board

With an HP Tablet PC, home health care workers can instantly access the information they need, such as patient charts, lab and other tests, and insurance information. When the visit is completed, forms can be filled out, signed, and then submitted immediately.

The Tablet PC use shortens the information cycle by enabling health care workers to answer questions, fill out forms, and submit medication orders on the spot. The forms can be completed by hand with a digital pen, but no need to retype: the HP Tablet PC converts handwriting to text. Problems with an order or a report can be flagged and addressed immediately, and, by eliminating rekeying, medical errors are reduced.

Table 4. HP Tablet PCs Improve House Call Effectiveness

Health care workers build stronger relationships by using their HP Tablet PCs for relevant information and to respond in a timely manner.

House Call issue	HP Tablet PC benefit	Key Performance Indicator
Manage complicated schedule and information	<ul style="list-style-type: none"> • Information from several sources can be accessed via wireless connection at area WiFi “hot spots.” 	<ul style="list-style-type: none"> • Reduced Overhead • Increased Productivity
Difficult to keep patient records up-to-date	<ul style="list-style-type: none"> • Enter ink data into electronic forms • Enter data directly into patient records 	<ul style="list-style-type: none"> • Reduced Medical Errors • Increased Productivity
Need easy access to diagnostic and treatment information	<ul style="list-style-type: none"> • Diagnostic tools, expert recommendations, formulary all stored on HP Tablet PC • Digital pen technology makes access and annotation of data easy 	<ul style="list-style-type: none"> • Better patient care • Increased accuracy
Difficult to respond to patient questions	<ul style="list-style-type: none"> • Additional resources available through e-mail, instant messaging, and the internet • Access to back-end systems 	<ul style="list-style-type: none"> • Reduced Medical Errors • Shorter information Cycle
Too much paperwork slows work flow	<ul style="list-style-type: none"> • Electronic medical order forms or applications • Electronic billing forms • Patient questions resolved during the call 	<ul style="list-style-type: none"> • Shorter Information Cycle • Reduced Errors • Improved Patient Satisfaction
Expense of transcription costs and maintaining paper files	<ul style="list-style-type: none"> • All information is captured electronically and easily accessible • Facilitates transition to electronic patient records 	<ul style="list-style-type: none"> • Reduced Medical Errors • Reduced Overhead • Reduced Transcription Costs

How Health Care Benefits from Tablet PCs

Many professionals in the health care industry – and their patients -- can benefit from the advanced computer features of the Tablet PC.

This section provides many examples of how HP Tablet PCs are improving the quality of care and the administrative tasks connected with it. Detailed descriptions are given showing how medical providers are using HP Tablet PCs to provide higher quality patient care. Additionally, sidebars provide additional examples of Tablet PC use for clinical trials, home health care, and emergency response (EMS) teams.

Recording Clinical Trial Data With HP Tablet PCs

Clinical trials must be conducted for new drugs before they can be released.

The speed and accuracy of clinical trials influence how long a drug can remain under patent after its release.

Benefits of the HP Tablet PC for Clinical Trials

- When meeting with trial participants, clinicians can record their experiences directly onto electronic forms.
- Using logic built into the forms, errors can be flagged and corrected immediately, precluding the need for costly investigations later.
- Completed forms can be submitted directly to the trial database eliminating the errors, time, and cost associated with manual data entry.

Key Performance Indicators

- Reduced Errors
- Duration of Trial
- Reduced Administrative Time
- Reduced Clinician Time Per Patient
- Increased Drug Time Under Patent

Patient Care

With patients' lives at stake, health care providers must take every measure to prevent errors and maintain the highest possible levels of patient care. Without excellent care, not only are patients' health and lives potentially at risk, providers may also lose revenue to competitors or become involved in a malpractice suit.

Health care providers are constantly on the move and require access to extensive amounts of information in providing customized care for each patient, including:

- Patient records
- Medical reference material
- Insurance information

They need this information whether they are visiting patients in an exam room, hospital, or at home.

The traditional system of paper charts makes patient data difficult to access since the chart can only be in one place and only viewed by one person at a time.

For the last several years, medical practices have been moving to electronic record systems to make information more accessible and reduce the time associated with managing paper files, but these systems can be limited by the location of workstations.

The Tablet PC provides benefits that make it the best solution to use when implementing an electronic medical record system.

Tablet PC Solution

Tablet PCs add value in the area of patient care by providing access at the point of care – information that can:

- Help to reduce medical errors
- Increase doctor and nurse efficiency
- Shorten the duration of patient visits

Carried into the patient's room, the Tablet PC can be used to both provide and collect patient data while still allowing natural interaction between the care giver and the patient.

In addition, the Tablet PC provides access to patient records outside of the office, making them available to doctors at home, in the hospital, and wherever else they may be required.

Tablet PC Benefits

For health care workers, the Tablet PC can save more than money—it can save lives and ensure that patients receive the best care available.

- Mistakes can be avoided through access to complete medical histories and by inputting information directly into electronic forms that have built-in logic to flag errors as they are entered.
- The HP Tablet PC can also run software systems that help doctors with diagnosis, recommended treatments, and understanding potential drug interactions. The value of these programs is maximized when the doctor has access at the point of care.

- The ten-inch screen makes it convenient for looking at X-rays, charts, or other patient information. The X-rays can be annotated and shared with others improving communication among care givers.
- The ability to run any Windows-based program allows health care professionals to access all of the programs they need during the day including e-mail, the internet and instant messaging.

Secure Home Health care With HP Tablet PCs

Doctors and nurses providing home health care need to carry extensive amounts of information for each patient they visit. These heavy charts and records can easily fill a box.

Using an HP Tablet PC eliminates the need to carry information as paper.

In addition, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) regulations require the security of health records and limit what can be taken out of the hospital or doctor's office. A secure HP Tablet PC helps meet these regulations, while allowing the information to go where it is needed.

Key Performance Indicators

- Patients Seen Per Day
- Reduced Administrative Work
- Reduced Medical Errors

Speeding the Work of Emergency Response Teams

Emergency response teams are judged based on the speed with which they respond to a call.

HP Tablet PCs are now being used to help the teams determine the best route to an accident.

Once at the scene, the paramedics can enter patient information into forms that can be transmitted to the hospital computing system upon arrival, speeding the process of handing off medical care and registering the patient.

With the hospital paperwork already complete, the team is ready to respond to the next incident.

Key Performance Indicators

- Time to Scene
- Reduced Administrative Work
- Faster patient handoff and treatment

Table 5. HP Tablet PCs Improve Hospital Patient Care

In a hospital, the HP Tablet PC improves patient care by facilitating the collection of charting information at the patient bedside, eliminating paper charts, and providing access to complete medical records and reference information.

Doctor issue	HP Tablet PC benefit	Key performance indicator
Limited access to patient records	<ul style="list-style-type: none"> • All authorized care givers have immediate access to up-to-date patient charts • Doctors can take the Tablet PC home to review charts 	<ul style="list-style-type: none"> • Reduced Duration of Stay • Better preparation • More accurate diagnosis
Need to collect information while talking with patient	<ul style="list-style-type: none"> • Forms can be completed while conversing • Entering notes, sketches, and images is easy with digital pen and handwriting capability 	<ul style="list-style-type: none"> • Reduced Paperwork and Transcription Time • Reduced Medical Errors
Information resources not always available in treatment room	<ul style="list-style-type: none"> • Can provide an interface to patient records, lab results, prescription information, and so on • Provides access to Internet and other medical resources 	<ul style="list-style-type: none"> • Reduced Duration of Stay • Knowledge sharing with patient
Unable to annotate digital images	<ul style="list-style-type: none"> • Doctors can annotate directly on images and share them for review by peers 	<ul style="list-style-type: none"> • Reduced Medical Errors • Reduced Duration of Stay

Insurance Claims and Reimbursements

Typically, 80 percent of the total expenses for an insurance company are claims-related. For hospitals and medical practices, it represents an extraordinary amount of staff time and revenue. The New England Journal of Medicine says that a doctor's administrative costs account for 26.9 percent of gross income. Yet doctors may tend to undercode services, because they cannot quickly and conveniently provide documentation to substantiate services.

Facing increasing financial pressures, insurance companies, physicians and health care organizations alike are actively seeking solutions that would both reduce settlement costs while improving patient satisfaction.

Tablet PCs could help insurance companies and health care providers by:

- Responding to and closing claims more quickly
- Producing more accurate claim reports
- Submitting more accurate coding for correct billing
- Reducing insurance fraud

Tablet PC Solution

Using a Tablet PC, an insurance claims adjuster or a health care worker can complete the claim report on the spot, eliminating the paper file and associated errors or lost information. This also eliminates the cost of staff time to go through paper files to find what services were performed and which are reimbursable.

The health care worker or adjuster can:

- Take and annotate images
- Draw diagrams
- Complete the case forms while talking with the patient or medical office, making sure information is accurate
- Fill in insurance reimbursement forms on the spot

In addition, the Tablet PC provides the adjuster and the medical practice staff with access to the wireless network and software to help calculate the amount of the claims and begin processing them. Wireless access also helps eliminate billing errors, and the possibility of charges of insurance fraud.

Tablet PC Benefits

Completing the claim forms more quickly and accurately provides financial benefits in several areas:

- Reduced leakage in loss adjustment and other expenses and settlement costs
- Reduced customer support costs
- Reduced time and rejections in getting reimbursement from payers
- Reduced office costs for health care providers

Table 6. HP Tablet PCs Reduce Time and Cost of Insurance Claims Process

With an HP Tablet PC, insurance information can be collected electronically, benefiting both insurance companies and medical offices filing for reimbursement.

Claims issue	HP Tablet PC benefit	Key performance indicator
Claims take too long to process	<ul style="list-style-type: none"> • Complete the claim filing process while at the claim site allowing processing to begin • Access to estimating programs and wireless networks from claim sites 	<ul style="list-style-type: none"> • Reduced Case Cycle Time • Improved Patient Retention • Reduced Adjustment and Filing Costs
Difficult to capture claim information accurately	<ul style="list-style-type: none"> • Capture sketches, notes, and images electronically – while at the claim site 	<ul style="list-style-type: none"> • Reduced filing and Settlement Costs
Too much time spent on paperwork	<ul style="list-style-type: none"> • Eliminates paper forms and frees up physical storage space • Data entered directly into claim form 	<ul style="list-style-type: none"> • Increased Claims processed Per Day • Reduced Medical Error

Education

For years, the field of education has looked to technology to reach students more effectively, and, with the Tablet PC, educators have found a way to make classroom lectures more engaging and interactive. Students and teachers at every level can reap the benefits of Tablet PC technology. This section focuses on HP Tablet PC use at the university level, and for health professionals attending Continuing Medical Education (CME) courses.

Educational Institutions and Organizations

Universities are rapidly adopting technology to improve the educational experience of students. The Tablet PC is effective across a wide variety of learning environments, from large classroom lectures to small field-based classes making it a great solution for the university environment. The technology offers particular benefits to medical students or to physicians attending CME courses, where they must often combine text and graphics in teaching and learning.

Tablet PC Solution

Educational organizations are using Tablet PC solutions to:

- Increase the quality of education
- Add flexibility to student programs
- Ease the teaching workload of professors

These benefits result in increased student retention, increased participation in distance learning programs, and increased time for research.

When creating class presentations, the Tablet PC ink technology allows lecturers to mark up graphics and create complex hand-drawn diagrams or formulas that would normally have to be sketched on the whiteboard during class.

Within the lecture or classroom, students using Tablet PCs can join a class network and download the lecturer's notes to their computer as they are written. This enables the students to actively listen to the lecture and participate in class discussion rather than concentrate on note taking.

Additionally, students can use their HP Tablet PCs to record a lecture and add additional notes that can be linked to the recording. When studying, they can play the recording while reviewing the relevant lecture slides. Conversely, they are able to advance to specific sections of the lecture based on their own handwritten notes.

Furthermore, when students are unable to attend a class, they can still easily receive relevant class notes, drawings, and recorded lectures via e-mail.

The Tablet PC reduces the time and work involved in grading student papers by allowing professors to use ink to mark up the papers directly in their electronic format.

Tablet PC Benefits

Educational organizations adopting Tablet PC-based solutions enjoy:

- Increased student attendance
- Increased student retention
- Improved test scores

Lecturers using the Tablet PC now have:

- A more efficient system to create lectures and grade papers
- Improved communications with students
- Additional time available for research and publishing

Students using the HP Tablet PC benefit from:

- Better and more comprehensive note-taking capabilities
- Improved access to class materials
- Improved communication with their professors or lecturers

Table 7. Improved Interaction and Retention for Education

HP Tablet PCs allow for a more vibrant and interactive classroom environment where students can pay greater attention to the lecture material and participate fully in classroom discussions because they are not forced to copy notes.

Lecture issue	HP Tablet PC benefit	Key performance indicator
Classes lack interaction	<ul style="list-style-type: none"> • Students can work problems on screen and display them for the class 	<ul style="list-style-type: none"> • Improved Participation
Difficult to work with sketches and formulas electronically	<ul style="list-style-type: none"> • Add sketches and formulas to lecture slides rather than writing on a whiteboard • Add sketches and formulas to assignments and submit electronically 	<ul style="list-style-type: none"> • Improved Productivity
Students busy taking notes during lecture	<ul style="list-style-type: none"> • Notes can be transmitted to students wirelessly during the lecture • Lecture recordings can be made with slides, audio, and notes • Complete lecture is available for study 	<ul style="list-style-type: none"> • Increased Retention • Improved Test Scores

Government Health Care Services

Government agencies at all levels are adopting technology to help them provide better service while maintaining or reducing budgets. Many technology initiatives are aimed at increasing the mobility of government workers, including social and health care workers, so that they can be more productive and provide better service.

This section highlights examples of how HP Tablet PCs are improving the quality of government services. Detailed descriptions are provided showing how Tablet PCs are used by caseworkers in the field.

Field Caseworkers

Tablet PCs are helping government caseworkers manage an increasing workload by allowing them to fill out forms electronically, by eliminating the need to compile and carry extensive case reports, and by making their downtime more productive.

Tablet PC Solution

Tablet PCs provide these benefits by allowing caseworkers to:

- Bring a computer into their field or home meetings with clients
- Complete notes while waiting in cars or in court
- Take advantage of improved access to information to government regulations and case histories.

Table 8. HP Tablet PCs Help Caseworkers Manage Information

Social Service caseworkers use HP Tablet PCs to collect information while they are meeting with clients and then organize the information they have collected.

Caseworker issue	HP Tablet PC benefit	Key performance indicator
Extensive documentation requirements	<ul style="list-style-type: none"> • Stores procedures and regulations • Record conversations to improve documentation 	<ul style="list-style-type: none"> • Error Reduction
Not enough time to for visits	<ul style="list-style-type: none"> • Electronic forms can be completed during visit • Eliminates trips to office to pick up information 	<ul style="list-style-type: none"> • Reduced Administrative Tasks
Difficult to get overview of case history	<ul style="list-style-type: none"> • Stores all documentation in one location • Search and access electronic records immediate 	<ul style="list-style-type: none"> • Improved Service
Expense of transcription costs and maintaining paper files	<ul style="list-style-type: none"> • All information is captured electronically and easily accessible • Facilitates transition to electronic patient records 	<ul style="list-style-type: none"> • Reduced Medical Errors • Reduced Overhead • Reduced transcription costs

Conclusion

The Tablet PC answers customers' requirements for today's mobile health care worker by providing a portable computer with:

- A versatile form that can be used in any location without trade-offs. With docking capabilities or in clamshell mode, the Tablet PC user can choose the most efficient mode of operation in any situation
- The capability to write on the screen that enables health care professionals to naturally record, search for, and share patient information securely making the software they use every day, such as the Microsoft Office System more valuable.
- Digital pen capabilities that make navigation and organization of information easy.

Many of the solutions and key performance indicator improvements described in this paper are possible because the HP Tablet PC can be carried into locations where computers have not traditionally been used, increasing efficiency, and promoting collaboration across the health care value chain by making critical information readily available.

By having access to a computer at all times, health care professionals are poised to complete the shift to electronic systems and eliminate paper forms altogether.

As a result, health care professionals can:

- **Collect Information More Efficiently**

Electronic forms provide greater efficiency and accuracy than their paper counterparts: they eliminate the need to rekey data, reducing administrative time, shortening process cycle time and avoiding the inevitable errors that occur when data is transferred. Notes can be "written" and then converted into typed text or stored as ink, are searchable, and can be shared with coworkers.

- **Get Information Immediately**

Mobile health care workers can access reliable and complete data on the spot for decisions and critical treatment or diagnosis processes, resulting in higher costs and patients at higher risk.

- **Resolve Issues Where They Occur**

The Tablet PC provides mobile health care workers with access to resources as if they were at a desktop computer, including e-mail and instant messaging.

The ability to access office applications remotely allows health care workers to remain at the scene of a problem through its resolution, rather than having to return to a workstation for more information.

- **Use Current Data**

Printouts of data tend to lose their value very quickly, particularly with patients in crisis.

By providing access to current patient and treatment data, the Tablet PC reduces the risk of errors and provides key resources for optimal patient care.

What Makes the HP Tablet PC Special?

HP Tablet PCs are the evolution of HP's notebook PC and an extension of HP's commitment to providing optimal tools for the health care industry

HP is the number one technology in health care, and a major worldwide business contributing more than \$3 billion to health care innovation. HP servers are used in 96 percent of hospitals in the United States, with a 62.64 percent share of the health care server market.

HP has a broad market reach. As a major thought leader in health care technology innovation, HP has partnered with other industry leaders to deliver end solutions to the challenges facing health care both in terms of patient care and in administrative needs

The HP Tablet PC is a unique tool for facing many of the challenges in health care today.

Mobile

The HP Tablet PC is specifically designed to deliver desktop-quality services in the field and on the spot.

- The digital pen allows users to take full advantage of the computer in any situation, even when standing.
- HP Tablet PCs are light: the slate model is 4 pounds with a keyboard, 3.1 pounds without, making it easy to carry them at all times.
- The HP tempered glass faceplate is ideal for medical applications. Unlike "soft" tablet faceplates, it can withstand pressure and wear, and be wiped clean between patient visits.
- Tablet PCs must make efficient use of their batteries to enable users to take them out of the office. Battery management features allow users to extend their battery life by determining where the power is used. Using these features, some HP Tablet PCs now provide 4.5 hours of battery life – and the battery can be "warm swapped:" a fresh battery can be swapped for the spent battery without having to power down the unit, or lose data.
- Wireless connectivity adds value to mobile workers by enabling them to connect to information sources regardless of their location. HP Tablet PCs all offer built-in wireless connections that work short distances and long distance automatically.
- Windows XP Tablet PC Edition provides a fast resume from standby, allowing users to save battery power and then instantly resume where they left off.

Powerful

Windows XP Tablet PC Edition, the most advanced client operating system Microsoft offers.

- Contains all of the features and functionality of Windows XP Professional so it runs all Windows-based applications without modification
- Supports ink data and has advanced handwriting and voice recognition capabilities
- The first Microsoft client operating system to include the .NET framework making it easy for developers to develop Tablet PC-based applications

Versatile

The HP Tablet PC allows you to choose the best way to interact with your computer in any situation. You can use the keyboard, pen, or voice commands to enter information or navigate through programs. This versatility allows the HP Tablet PC to enhance productivity in many situations that were previously unsuitable for computer. Images can be annotated and exchanged, and the audio/recording function can result in significant cost savings when compared to medical transcriptions services.

The HP Tablet PC comes in two basic designs – slate and convertible.

The slate design has a detachable keyboard and is most valuable to care givers looking for an easy way to access patient or research information, take progress notes, and do simple data entry while away from their office. The slate models can be used with docking stations providing all of the functionality of a desktop computer.

A convertible closely resembles a notebook PC in that it has an attached keyboard and a clamshell design. Unlike a notebook PC, the screen is designed to rotate so it can be folded back on the keyboard. The convertible provides all of the functionality of a notebook PC with the advanced features of an HP Tablet PC.

For more information about the Tablet PC, go to http://www.hp.com/sbso/busproducts_notebooks.html