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Award Number: MIPR 5EDAMM5049

TITLE: Web-based OIF/OEF Mental Health Medical Record System

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PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

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FY05 Mid-Term Report



Please fill-in the Proposal No., MIPR No., and Title below:

PROPOSAL NO.: 2004011101

MIPR No.:

TITLE: Web-based OIF/OEF Mental Health Record System

ACCOMPLISHMENTS

(30,000 Character Limit)

The project accomplishments are close to proposal.

The research group has written almost the entire protocol.

The group has cooperation with personnel in Iraq and in Germany who are ready to participate in the study. The research group has met several times and the final protocol is nearly complete. The group has a copy of the OIF/OEF intake form that is used in theater and will be working to map the data collected on that form to the data collected on the WRAMC Virtual Health Behavioral Record to determine whether the OIF/OEF data collected onto the Flash drive will be uploaded directly into the Virtual Health Behavioral Record or into a stand-alone form.

The research group has developed a workflow document and determined the functional requirements of the project to this date. Once the Research Coordinator is back in place, the project will move forward and data collection should begin shortly after IRB approval is in place.

PI Evaluation:

PROBLEMS/ISSUES

(30,000 Character Limit)

This project has encountered some problems/issues.

The project was anticipated to start (August 2005, upon IRB approval). However, a change in personnel has resulted in a time-lag in getting this project off of the ground. The original Research Coordinator on this project left, and the new Research Coordinator has had difficulty getting her contract in order. As a result, the project has not moved forward for a couple of months. In the mean time, the research group has met in order to plan the software programming needs of the project, but unfortunately, until the Research Coordinator is in place, this next step of the proposal cannot move forward.

PI's Evaluation:

Second Half Project LifeCycle

(30,000 Character Limit)

The project plan is close to the Proposal.

Once the Research Coordinator is back in place, the Research Coordinator will be working to map the data collected on that form to the data collected on the WRAMC Virtual Health Behavioral Record to determine whether the OIF/OEF data collected onto the Flash drive will be uploaded directly into the Virtual Health Behavioral Record or into a stand-alone form. Once that determination is made, then step will to solicit a contract for writing the programming that will be uploaded unto flash drives that will be used in the theater. The final protocol will need to be completed. This programming will help to determine the type of flash drive

In addition, the final protocol will need to be approved by the Department of Clinical Investigation. Once final approvals are in place, then the project can begin collecting data. This will enable the project to realize the objects of the proposal, namely (1) to determine the feasibility of the proposed Internet-based information and case management system under combat conditions, (2) to measure satisfaction with the new OIF/OEF-specific electronic medical record (EMR) system, (3) to document anticipated improvements in clinical outcomes due to improved clinical documentation and improved document transfer, (4) to reduce costs associated with inefficiency and errors, and (5) to reduce medical errors and prevent serious adverse health outcomes (e.g., suicide).

PI's Evaluation:

Deliverable Update

(30,000 Character Limit)

The project plan is close to the proposal.

Although there are multiple web-based telemedicine applications throughout the NARMC and AMEDD, none has an option to receive data via batch processing. This proposal intends to utilize batch processing technology to provide behavioral health providers in theatre the ability to use a secure stand-alone executable program with an associated database to gather patient information on site. The information gathered will then be uploaded into an existing web-based application at a convenient time, thereby, allowing authorized web-based record users at all echelons of care access to patient's mental health information. Once this project is fully functioning and operational, the technology demonstrated should be a candidate for AMEDD-wide adoption with its ability to be integrated into other applications, at other locations including additional combat zones, and on U.S. Navy ships, which have limited satellite communications.

The military mental health care system currently has difficulty transferring clinical documentation to different echelons of care and does not have a fully functional global, electronic medical record system. The use of an electronic Internet-based data collection system will allow broader dissemination of medical information and may simplify the tracking of patient outcomes for the purposes of improving health care delivery to deployed soldiers and for the military medical Command (Flynn et al, 2003).

The military would benefit from this proposed modality by increasing access to clinical documentation on soldiers evacuated from combat due to mental illness and by reducing the risk of inefficient mental health care. Non-combat zone physicians (i.e., at WRAMC) will have the ability to review the soldier's combat zone progress notes, discharge documents, master problem lists and combat medical history prior to their evaluation of the evacuated soldiers. As a result, this system will provide efficient continuity of mental health care for evacuated OIF/OEF soldiers, from initial evaluation in theatre/combat areas to the final treatment facility (e.g., WRAMC). The military will also benefit by potentially reducing medical inefficiency because of their ability to view past medical treatments and therapies in combat zone areas and intermediate treatment facilities (e.g., at Landstuhl). This project predicts that soldiers will be more likely to receive more focused treatment upon arrival at WRAMC, and thus may reduce the overall length of care and costs needed for their care. Furthermore, we anticipate an overall improvement in clinical outcomes, a significant reduction in overall length of care and costs, and more effective and efficient mental health care delivery for evacuated OIF/OEF soldiers.

This web-based medical record system will be utilized initially to track only mental health patients, but the ability to demonstrate a functional system of data collection and transfer can ultimately be used for any type of medical data. Additionally, lessons learned from this project could be used to inform developers of Army Enterprise projects such as CHCS-II-T, CHCS NT, TRAC2ES, SIPRNET, AKO or others.

This pilot study will conduct medical record reviews and use various measurement instruments

(i.e., surveys) to meet research objectives and to address research questions. The research team will review two types of records: (1) electronic records that were initiated using the proposed electronic medical record system and flash drive technology, and (2) paper records that are hand-carried by the soldiers and transferred to clinicians at WRAMC. Both types of records will be reviewed to determine the presence of key/critical clinical information, which clinicians utilize in order to create clinical and disposition decisions. The research team will compare both types of records for completeness in terms of the following variables: identifying/demographic data, military information (including Commander's name and contact information and rear detachment information), presenting problem (e.g., chief complaint and duration of chief complaint), current medical problems, recent substance abuse assessment, current family relationship assessment, suicidal/homicidal risk assessment, social support assessment, current pending legal difficulties, mental status examination, diagnosis, and treatment recommendations (Hicklin, 2003).

The research team will assist the web system/database developer in order to ensure specific outcomes measures are monitored and tracked using the web-based medical record system. Soldiers who arrive from OIF/OEF will be tracked/timed from the day they arrive at WRAMC until two different end points: (1) the day they are discharged from the inpatient psychiatry ward or the psychiatric partial hospital, and (2) the day they are dispositioned (either returned to duty or the day their Medical Evaluation Board arrives at the Physical Evaluation Board. The research team will compare differences between the number of days for each of these end points between the electronic record group and the usual transfer of information group (i.e., hand-carried paper records). The research team will also estimate the cost avoidance connected with the possibility of returning people to duty more quickly, discharging them from costly services more rapidly, and dispositioning medical boards more rapidly using WRAMC data on the daily cost of hospitalization and/or the cost of local per diem for outpatients.

Additionally, surveys will be utilized to collect data from clinicians at each echelon of care to evaluate multiple parameters and to meet the following research objectives: (1) to evaluate the feasibility, durability, functionality, and ease of use of the flash drive technology (e.g., percent of time data stored correctly, average time for data to upload, etc.), (2) to assess the integrity and efficiency of the interface between the flash drive technology and the web-based medical record system, and (3) to determine the overall satisfaction and perception of benefit for the clinicians with transmitting data via the web-based medical record system.

PI's Evaluation:

Expenditures

(Please fill in table below)

3Q FY 05

4Q FY 05

Element of Resource (EOR)

Apr 1 - June 30

Jul 1 - Sep 30

Travel 2100

Shipping 2200

Rent & Communications 2200

Contract for Services 2500

Supplies 2600

Equipment 3100

Financial Narrative
(30,000 Character Limit)

PI's Evaluation:

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