Project Purpose

This Refugee Technology Opportunity Project uses mobile telecommunications and internet information technology to strengthen the capacity of refugee community based organizations (CBOs) on a regional level to meet the needs of their various ethnic and cultural communities for access to social and educational services, for technical assistance in crossing the "digital divide", and for communicating more effectively with the mainstream public. Wireless mobile and other new web-based technologies for linking refugee service providers will be set up, thereby increasing organizations' ability to efficiently serve community members. Using web-based technology, MIS systems will be redesigned and data systems integrated within and across organizations, and industry standard security features added, so that staff is freed up to work more directly in the community, their work supported by accurate and appropriate data. In addition, the upgraded Refugee Information Management System can use its database to inform shared consultation among various staffs, leading to less duplication and more in-depth interactions with community members in need. For the smallest CBOS, technical assistance in development and ongoing support of MAA websites will share information within ethnic constituencies as well as with mainstream communities. A regularly updated listing and schedule of available interpreters will enhance both access and employment opportunities. The websites will have the option for multi-language readability and audio-streaming of public service announcements.

Problem To Be Addressed: Many problems face the resettlement of refugees in the United States. In Washington State, one of the most effective resources to solving refugee problems is a diverse multi-ethnic system of community-grown service provider and advocacy groups, many of whom contract with state agencies to deliver culturally competent services. The diversity of the system ensures high quality customized community services, but puts some barriers in place in terms of coordination, the risk of duplication, and shared learning. The problems facing these service providers in the Puget Sound region of the State of Washington are typical of those across the nation, and the development of local information systems here can serve as a national model. Over the years and through several public meetings the issue of communications and sharing information between organizations for the benefit of the refugees has always been identified as a primary problem. Several deficiencies have persisted in the delivery of services to refugees, including:

1. The organizations are at various levels of administrative and technological capability for managing contracts, documenting and tracking case management activities, and determining the costs for delivery of services;
2. The organizations depend on members of the refugee community they serve to provide services, since they often have limited staff proficiency in speaking English as well as other languages spoken by their clients;
3. The organizations operate independently along ethnic lines, yet share many common problems internally as well as externally in assisting the resettlement and integration of refugees in the local communities. Informal and social communications on a personal level have been helpful but inadequate.

4. Refugee clients do not always follow-up on referrals or show up for appointments, and request services from multiple providers.

The limited English proficiency (LEP) providers currently use the Refugee Information Management System (RIMS), a desktop database that has several functions. On the community resource level, RIMS serves as an information clearinghouse for community events, funding and job opportunities, ESL class openings, and agency profiles. In its MIS dimension, RIMS tracks services to refugees for billing to the State of Washington Department of Social and Health Services Refugee and Immigrant Agency. Presently, the utility of RIMS for billing and sharing information is in its infancy. Much information that could be profitably networked either remains un-entered at the MAA level, or for LEP service providers are still stuck in a paper system. To summarize, the limitations of RIMS are:

1. The LEP providers are not able to identify duplication of client services between organizations that result in rejected billings.
2. Case managers are not able to identify previous case managers for consultation;
3. Client data that is entered on paper forms by case managers have to be re-entered into RIMS for billing.
4. Client information and case management activities that is not submitted for billing is not tracked in RIMS and is not available for analysis.

Proposed Solution and Anticipated Outcomes: The Refugee Technology Opportunity Project proposes to integrate and build the case management capacity of service providers through the use of wireless mobile technology and increase efficiencies in service delivery through:

1. Use of Pocket PC phone and Tablet PC mobile technology for point of contact client data management by case managers;
2. Design of common digital forms for collecting client data and tracking delivery of services;
3. Development of a web-based data system that provides shared data collection and reporting, information dissemination through web services, listing of previous client services and case manager assignments, and messaging support to staff away from office.
4. Provision for securing data exchange and protecting privacy of client information.
5. Technical assistance and training to refugee organization staff on the use of web technologies and mobile systems for communications and data management.
6. Technical assistance in development and ongoing support of MAA websites to share information about their ethnic communities and services, including a listing and schedule of available interpreters. These websites will have the option for multi-language readability and audio-streaming of public service announcements.

The Refugee Technology Opportunity Project will upgrade the Refugee Information Management System to provide access to a shared database hosted on Refugeeweb.org. Case managers will be able to access information to clients that are assigned to them,

identify what services have been previously provided to the client by all participating providers, identify which case managers have previously worked with the client for case consultation if needed, and track time and mileage for providing services to the client.

Innovation

The Refugee Technology Opportunity Project will use mobile technology creatively to address the needs of the non-profit and public sectors in the following applications:

1. Create a data sharing agreement that enables administrators to resolve referral and billing conflicts and case managers to consult regarding client services.
2. Demonstrate the effectiveness of using mobile technology for linking service providers through web-based technology.
3. Design of a common data collection and integrated MIS service delivery system.
    a. Design of a workflow process that integrates the eligibility determination, referral source, and point of contact data collection and reporting.
    b. Design of mechanisms for data security and information privacy using proven methods and established industry standards for data exchange
4. Embedding evaluation into the data collection and case management process for real-time process auditing and establishing the cost of providing services.
5. Create provider collaboration using Windows Sharepoint Services.

The use of mobile technology frees the case manager from being tied to the office and paper forms. Using mobile technology, the case manager can manage a schedule of client appointments, look up a client or work site address using pocket streets, call to confirm that the client is available while in-route, check for previous services by other case managers, and exchange messages with a supervisor. Travel time and time with the client can be logged as well as short case notes and mileage for logging the cost of delivery of services. If the support of an interpreter is needed, the case manager can look up the availability of an interpreter from the database. If a question arises regarding services from another provider, the case manager can look up what other case managers have provided services to the client and call them. The outcomes of the contact can be updated to the database upon completion and a supervisor will be able to monitor case management information real-time.

This proposal provides for the integration of services between organizations for the benefit of the refugee client without interfering with the competitive contracting process of the funding sources. Requests for duplicate services are alerted to the involved organizations that then have the option for resolving any overlaps and duplications administratively before incurring cost. Data-sharing in this manner extends the reach of public services from a most basic approximation of need and solution, into a greatly more sophisticated analysis of client needs, the interaction of client efforts and community resources, and the documented ladder of actions that lead to a successful economic and family result for the refugee participant.
Providing common web-site hosting for the MAAs will enable providers to have access to a schedule of their social and interpreter services and allow the MAAs to reach out to

the public in ways that are currently beyond either their financial or staff capacity to accomplish on their own. The common web site will also provide better search access from the mainstream for the purposes of sharing knowledge, and recruiting volunteers and resources. The entire system is designed as a direct assault on barriers to access.

Community Involvement

Applicant Partnerships: This project is cooperatively developed under the administration of the Nonprofit Assistance Center (NAC) in Seattle in partnership with non-profit organizations providing services to refugees in the Puget Sound Region and an Alaska Native-owned small business information systems company. The community based organizations include three ESL, employment and training providers for Limited English Proficiency (LEP) clients and 17 mutual assistance associations (MAA), each representing different refugee ethnic communities.

The LEP providers include Jewish Family Services, a faith-based organization with affiliations to Somali Community Services, an East African Muslim-oriented service organization, and Episcopal Migration Ministries, a Christian volunteer agency which receives and assists resettlement of refugees assigned by the U.S. Department of State. A second LEP provider is the Refugee Women's Association, a multi-ethnic, community based organization that provides comprehensive services to refugee and immigrant women and their families. The third LEP provider is the Refugee Federation Service Center, a community based organization that serves as a fiscal agent for several affiliated mutual assistance associations from Eastern Europe and Eastern Africa as well as South-East Asia. The Mutual Assistance Associations represent the Cambodian, Eritrean, Ethiopian, Vietnamese, Somali, Chinese, Kurdish, Lao, Ukrainian, and Russian communities, among others.

Support for End Users: The primary end-users are the case managers and their supervisors of the LEP providers. Support is based on implementing changes in the case management process that will be initiated by using mobile technology. The mobile RIMS users will be provided 20 hours of initial training in the use of the tablet PC and Pocket PC phone. On-going technical assistance and need for additional training and support will be a focus of the performance reports. Evergreen Information Systems, LLC will work with local community colleges to identify qualified students ready to do their internship to provide three months of training and technical assistance to the MAAs in the development and maintenance of their websites. The MAAs will be organized into three groups each supported by an intern. A help desk will be funded in the grant to provide on-call support and schedule classroom training in Microsoft Office 2003 applications.

Stakeholder Involvement: The problems and solutions proposed in this proposal have been under discussion for several years in meetings that have been conducted jointly by NAC and the State of Washington Department of Social and Heath Services (DSHS) involving the providers and MAAs in a tri-county area (Snohomish, King and Pierce Counties). Several special meetings and work sessions have been conducted to review the

use of web technology by DSHS for making referrals and client reporting, in the design and development of RIMS, and in the need for MAA technology capacity building.

Demonstrated Sustained Commitment: The commitment to sustain the project results from the RIMS upgrade which will replace the existing desktop version currently in use. Changes to the work process from manual to digital will be permanent. The cost analysis capability that will be included in the client management process will enable the providers submit actual costs as a basis for negotiating payment points for each service provided. System coordination leading to the end of the rejection of duplicate billings will enhance the cash flow positions and overall ability to maximize contract utilization for the service providers. The State of Washington budgets on a biennium basis, and the continuation of a technical assistance contract to NAC in support of the refugee services program is essential to the monitoring of the services contracts issued to the providers by DSHS. The project will also be sustained by the MAAs in the form of payment for interpreter services, social service contracts, and web-based fund raising.

Evaluation

Evaluation Strategy: The evaluation of the project has two focuses: (1) the impact of technology on building the capacity of organizations to manage communications; and (2) the effect of mobile technology to reduce duplication and cost of providing services. Assessing the impact on capacity building will utilize a set of organizational development factors that can be compared between the LEP and MAA organizations, including consideration of socio-cultural factors. Assessing the effect of mobile technology will include an analysis of Key Performance Indicators (KPI) that can be embedded into the software application data collection and reporting.

Evaluation Questions:

1. What are the minimum organizational requirements needed to participate in a networked case management system?
    a. What socio-cultural and language factors influence the adoption and learning of technology?
    b. What are the strengths and weaknesses of organizational linkages between the LEP and MAA that can be assisted with technology?
2. What are the costs and benefits for using mobile technology in point-of-contact case management?
    a. Which Key Performance Indicators are useful in measuring change?
    b. How does the KPI compare between the three LEP providers and what factors are related to the comparison?
    c. What organizational strategies can be implemented to benefit from the use of mobile technology?
3. What is the return on investment for using mobile technology for point-of-contact case management?

Data Collection and Analysis: Adequate and accurate baseline information is not available. An initial evaluation of organizational capacity will be conducted by an interview based on a survey. Subsequent survey interviews will identify changes to the initial base-line survey and include lessons learned. Initial baseline cost of services will be determined by dividing the timesheets of the case managers by the number of clients served excluding estimated administrative time. KPI will be identified and agreed by the providers. Monthly KPI reports will be developed to coincide with billing reports. Since the billing may involve services that began before the project or extend more than a billing period, the KPI will focus on staff performance and be reviewed by the supervisor. Quarterly KPI reports will look at service performance and be reviewed by the organization administrator. Other KPI reports will track the trends in case management performance. The KPI reports will be provided to the independent evaluator to assist in the interviews. Lessons learned will be shared with the providers so that changes can be made that will benefit all participants.

Funds for Evaluation: NAC has budgeted $30,000 for evaluation and final report.

Evaluators: NAC will contract Annie Laurie Armstrong of Business, Government and Community Connections (BGCC) to conduct an evaluation of the project. Dan Slaby, MBA, MCSD of Evergreen Information Systems, LLC will participate in the development of KPI.

Final Evaluation Report: A final evaluation report will be completed by the independent evaluator and presented at a national NTIA conference.

Project Feasibility

Technical Approach: The project will be hosted under the domain namespace of Refugeeweb.org on a Windows 2003 server using Active Directory, IIS6 with Internet Authentication Service. Refugeeweb.org will act as a certificate server for staff and applications. The development of the mobile applications will be based on .Net framework with a Service Oriented Approach using XML web services. The mobile RIMS applications will access and use a SQL Server 2000 data warehouse and replicate local versions of provider-restricted data to MSDE on the Tablet PC and SQL CE on the Pocket PC. Exchange 2003 will be used for providing email services. The Exchange server will be restricted to accepting only accounts that have been entered into Active Directory. ISA 2000 will provide firewall services. Symantec Anti-Virus software with filtering for Microsoft Exchange will screen email and files for viruses. Transaction data will be backed up on a daily basis with a full backup each week. Upgrades, patches and virus definitions will be upgraded on a weekly basis.

InfoPath forms in Office 2003 will be used to facilitate data entry. SQL 2000 reporting services will be used to publish evaluation and case management reports.

Security of wireless networks will be enhanced by Wi-Fi Protected Access (WPA 802.11g), blocking the service set identifier so intruders can't locate the network, and MAC address filtering so only machines with their addresses registered can access the network.

Web pages for the MAA organizations will be developed using a free customizable template based on Microsoft ASP.NET to ease training and maintenance. Windows Sharepoint Services will be used to establish a project management site.

Applicant Qualifications: The Nonprofit Assistance Center is a technical assistance and training resource for nonprofit organizations with a mission of building community by strengthening organizations within them. While NAC has five years of experience providing a range of management support, training and leadership development services, the NAC staff each bring 10 – 25 years of experience providing nonprofit capacity building work, with specific expertise with faith and community based organizations based in communities of color, low income and refugee and immigrant communities. NAC uses a combination of staff and consultants who have the technical expertise as well as background working within the culture of targeted organizations. Current staff members have 5-20 years managing federally funded grants including research and demonstration grants. **NAC** has a budget of $1 million operating budget which as more than tripled since our first year of operation. In 2003 NAC provided technical assistance and training to a total of 229 organizations (unduplicated count) through NAC consultations and technical assistance awards, workshops, clinics and other NAC events. These numbers do not include the over 300 quick consultations via phone, email and in-person from NAC staff on a variety of nonprofit issues.

Project Implementation and Completion: The project will be implemented under the administration of NAC staff with contracts for technical services and project evaluation. A project committee will provide an opportunity for project staff and stakeholders to engage in discussion and decision-making for changes that would contribute to the project success. The process of implementing mobile technology for improving case management will begin with identifying the key performance indicators for use by supervisors and management and designing the work process and database to track these as case managers provide services. Involving case managers in the design, development, testing and evaluation process helps insure that results and lessons learned are implemented in an effective way. Using the provider managers and branch supervisors in the comparative analysis of trends in the KPI will help gauge the appropriateness of the evaluation methods.

We plan to implement web technology with the MAAs in three groups of 6 associations supported by a technical support person who can instruct, advise and mentor one or more persons. We look to working with local community colleges that have student intern positions that can use this work experience to complete their educational goals and attain certification. We have scheduled approximately 70 hours of training and technical assistance for each MAA in applying office and web technology.

The completion of the project will include an independent evaluation report, a manual that can be used to assist implementation of mobile case management services in other agencies, public and private, and a user manual.

Privacy and Security: Several issues of privacy and security are addressed in this project. First is the issue of sharing client information between providers. If service has been authorized and referral made by DSHS then the exchange of client information is covered by the DSHS contract for services. A provider can request an authorization for services to a client if the client meets certain requirements. In either case, client information is tagged to the provider so that only information entered into the database by a provider is available to the provider. Only prior case manager information is available to all providers so that case consultation can be requested for the benefit of the client if approved by the client. Mobile technology facilitates finding previous case managers and making point-of-contact case consultations that can involve the client as well. A written policy for protecting the privacy of client information will be included in the training of case managers in the use of mobile technology.

Data security will be maintained by using Secure Sockets Layer encryption, windows authentication and the best practices published by Microsoft for Windows 2003, SQL server 2000 and .Net technology.

Sustainability: The project will be sustained beyond the period of grant funding by integrating the technology and training into the capacity building of the providers. By using mobile technology to improve the efficiency of case management, and using the project to determine a more accurate cost of service, the cost of using mobile case management technology can be integrated in the negotiations for the cost of services. The development of the technology and management capability of the MAAs will enable further subcontracting with the LEP providers for social services and other local agencies for interpretation services. The MAA website will maintain a schedule of fee-based interpreter services and an option for raising funds for specific community needs. NAC anticipates the continuation of a technical assistance contract with the State of Washington DSHS that would continue the networking services and technical assistance support of Evergreen Information Systems, LLC.

Dissemination: The results of this project will be disseminated to the project participants as internal monthly reports regarding staff performance and quarterly reports on changes to Primary Key Indicators. The reports will be analyzed by the evaluation consultant and presented to the project advisory committee. The reports will also be presented to NTIA. The project advisory committee will review and approve reports to be published on refugeeweb.org for public dissemination. A final report, and a working manual for assisting nonprofit organization to assess the use of mobile technology for point-of-contact case management, will be published.