

**THE SELECTION AND IMPLEMENTATION
OF A NEW INFORMATION SYSTEM FOR ADMINISTRATIVE,
FINANCIAL AND CLINICAL OPERATIONS**

By:

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Submitted by:

LTG Associates, Inc.
and
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Submitted to:

The United States Agency for International Development in the Philippines
Under Contract No. HRN-I-00-99-00002-00

May 2002

The Selection and Implementation of a New Information System for Administrative, Financial and Clinical Operations, was prepared under the auspices of the U.S. Agency for International Development (USAID) in the Philippines under the terms of the Monitoring, Evaluation and Design Support (MEDS) project, Contract No. HRN-I-00-99-00002-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of LTG Associates, TvT Associates, or USAID.

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ACRONYMS

ASP	Application Service Provider
CFO	Chief Financial Officer
COO	Chief Operating Officer
DB	Database
DDI	Digital Dimensions, Inc.
DOH	Department of Health, Philippines
FCFI	FriendlyCare Foundation, Inc.
FHSIS	Field Health Service Information Systems
FTE	Full Time Employees
FP	Family Planning
HMIS	Health Management Information Systems
IS	Information Systems
MTEC	Makati Technical and Healthcare Management, Inc.
MEC	Management Executive Committee
OB-GYNE	Obstetrician Gynecologist
RFI	Request for Information
RHU	Rural Health Unit
SOW	Scope of Work
SLA	Service Level Agreement
USAID	United States Agency for International Development

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I. INTRODUCTION

A. BACKGROUND

The FriendlyCare Foundation (FriendlyCare) has the objective to be a leading provider of high quality services in family planning, reproductive health, child survival, maternal and adolescent health in the private sector. The 2002 Business Plan for FriendlyCare states the organizational vision, mission and goals. They are:

Vision

FriendlyCare will consist of a network of private health facilities providing basic family health services with institutional linkages supporting healthy, well-planned families of modest means in achieving their full human potential.

Mission

- To deliver high quality family care services at costs that are affordable to the identified target socioeconomic groups (C and D)¹.
- To incorporate in family care services, reproductive health and fertility regulation interventions that will enable clients to plan their families effectively and appropriately.

Goals

- Within three years, adapt private sector practices to the operations of basic health and family planning facilities.
- Within five years, develop a critical mass of clinics that provides models for private sector involvement in low-cost basic health and family planning service delivery.

During the three years of existence, FriendlyCare has been financially supported with cash payments made by patients who receive clinical services and by the United States Agency for International Development (USAID) Mission in the Philippines. In May 2002, there were 10 clinics in operation: 8 in the greater Manila and 2 in provinces outside Manila.

The Scope of Work (SOW) was developed by USAID/Philippines and is presented in annex A. The SOW outlines the issues that were to be addressed and describes the expected product at the end of the engagement. In general, the SOW indicates that USAID wants to provide assistance to FriendlyCare with the selection of an information system for the central headquarters of FriendlyCare and for its 10 existing clinics. The information system to be selected will be capable of producing financial and business management reports to enhance the operations of FriendlyCare and to fulfill the information requirements of USAID. Further, the information system will permit

¹ The Philippine government defines socioeconomic classes by annual income. A and B groups have annual incomes of P50,001 and above; C and D groups have annual incomes of P8,001 to P50,000; the E group has an annual income below P8,000

FriendlyCare to deal more expeditiously with patient processing, produce clinical reports concerning clinic operations, family planning and other patient treatment, increase patient accessibility to care, and improve patient outcomes.

The consultant worked with the information systems manager for FriendlyCare from April 15 through April 26, and was introduced by USAID to the FriendlyCare executive, administrative and clinical leadership. The FriendlyCare organization chart is found in annex B and a brief description of FriendlyCare services and staffing is found in annex K. Over a two week period, the consultant interviewed numerous members of USAID and the FriendlyCare administrative and clinical staff (annex C), performed a brief overview of the current information system capabilities, reviewed existing information system proposals and analyzed alternative approaches to the configuration of the new information system capabilities. At the end of the engagement, a status report was presented to the FriendlyCare management executive committee and USAID (annex L). The following is a comprehensive description of the information systems environment at FriendlyCare and recommendations for the future.

B. METHODOLOGY

Based upon the SOW, the following were reviewed: the organizational objectives and strategic plan of FriendlyCare; the information system objectives and strategic plan; and the current software and hardware used by FriendlyCare. Discussions were held with USAID and FriendlyCare to understand the clinical and administrative needs of the users. A thorough needs analysis is critical to the information systems strategy, the selection of the proper software, and to increase the probability that the software selected will meet the current and future requirements of the organization. Further, a review of existing information system software proposals was made in conjunction with the FriendlyCare information systems manager.

II. KEY ISSUES FOR FRIENDLYCARE FUTURE INFORMATION SYSTEM

FriendlyCare is faced with a number of decisions about the administrative and clinical software they will use in the future. The major decisions are:

- **Should FriendlyCare dispose of its existing Health Management Information System (HMIS) in favor of a new clinical information system?**

The information systems manager and the consultant documented the status of the HMIS currently used by FriendlyCare in annex D. In summary, an attempt by FriendlyCare to revitalize their existing HMIS: will not provide FriendlyCare with an integrated, administrative and clinical system; cannot be assured of being successful; will hinder FriendlyCare's ability to replicate its family planning model; and, may be more costly to maintain than the acquisition of a new clinical system that has been tested successfully in other environments.

It is highly recommended that FriendlyCare not attempt to resurrect the current HMIS and to acquire a clinical software package that has been proven to be effective in an outpatient environment.

- **Should the administrative and clinical software be integrated?**

The acquisition of an integrated administrative and clinical software will permit FriendlyCare to electronically generate a wide variety of reports that are not currently available. The ability to combine clinical data with financial performance will permit FriendlyCare to develop a business model that can monitor the productivity of clinical sites and providers, but also electronically extract and combine administrative, financial and clinical data from a common database to quickly evaluate physician and clinical performance.

It is highly recommended that FriendlyCare acquire integrated administrative and clinical software.

- **Should FriendlyCare provide for online capabilities to all clinical operations?**

Currently, FriendlyCare does not have online capabilities with all of their clinical operations. As such, patients are not able to move from clinic to clinic and access their medical record from a centralized database. Although the number of patients who

receive clinical services at multiple locations may be low at the present time, this capability appears in the marketing statements previously made by FriendlyCare and will be essential as FriendlyCare grows the number of clinics and contracts with the government and additional employers to provide healthcare services.

Online capabilities will be essential to the success of FriendlyCare in the future.

▪ **Should FriendlyCare acquire client server or web-enabled software?**

Annex E contains a cost benefit analysis that considers web-enabled and client server software and the communication costs associated with each decision. The bottom line is that even though the cost of web-enabled software appears to be higher than the client server software, the cost of communication linkages for Internet connectivity is less than that for dedicated lines that would be required for the client server connectivity. Further, the web-based software configuration will permit FriendlyCare to sell most of its current servers, allow the sale of existing software licenses that are currently maintained for each site, will allow FriendlyCare to reduce the number of information systems personnel to maintain the servers in locations outside of Greater Manila, and will allow FriendlyCare to better protect its data by establishing a redundant database at their Shaw headquarters.

All costs being equal, it is recommended that FriendlyCare select a web-enabled software to meet their current and future needs for an integrated, online administrative and clinical information system.

III. INFORMATION SYSTEM SOFTWARE PROPOSALS

Prior to April 15, FriendlyCare received four responses to their Request for Information (RFI) for an integrated clinical and administrative software package. These requests had been generated as a result of the work of a local consultant, hired by FriendlyCare to assist them with the evolution of the FriendlyCare accounting system (See annex F for a description of the RFIs received by FriendlyCare). In addition, FriendlyCare was presented with two integrated practice management and administrative systems from the United States. These later alternatives were a result of a thorough search in the US for software packages that could be used in the Philippines. A description of this search is found in annex I. Finally, towards the end of this engagement, a local Philippine organization, 25*8, owned by one of the members of the FriendlyCare board of trustees, offered FriendlyCare a donation of up to Ph1,000,000 of administrative/financial software. All responses to the RFI describe the functionality of each software module offered and an approximate cost based upon the vendor's limited knowledge of FriendlyCare operations. 25*8 does not have a functional clinical information system available for consideration.

During the period of April 15 through April 26, three software demonstrations were presented to the consultant and FriendlyCare representatives. These presentations were made by: Basis Bay, a Malaysian company that has developed a comprehensive hospital information system; Soluziona, a Spanish company with offices in the Philippines (and 47 other countries); and, Digital Dimensions, Inc. (DDI), a Philippine company that has contracted with software companies in Australia (MEDTRAK) and the United States (Great Plains) to provide software that would meet the needs of FriendlyCare. All three software packages presented were developed to serve academic medical centers. Each package contains modules that could be integrated and provide FriendlyCare with the tools to meet their information system needs. A fourth company, Makati Technical and Healthcare Management, based in the Philippines, submitted a proposal that was not felt to be sufficient to meet the FriendlyCare requirements. The two practice management software companies from the United States that were submitted were deemed capable of providing service to FriendlyCare; AthenaHealth, a subsidiary of Siemens and ProData from the State of Washington, are both Application Service Providers (ASP).

Each of the above alternatives was evaluated by the consultant and the information systems manager. Soluziona, Basis Bay and DDI provided comprehensive demonstrations of their products and personally responded to questions presented to them about the functionality of their system and their ability to meet the customized needs of FriendlyCare. In addition, each company was required to submit a pricing scheme for their modules along with information about their capabilities of providing their software on a client server or web-enabled basis. A comparison of the responses to the RFI and comments made by the consultant and the information systems manager concerning the status of the current FriendlyCare information system is found in annex D.

IV. NEEDS ANALYSIS

The needs analysis for FriendlyCare can be divided into two major categories: administrative/financial management and the clinical management of patients including family planning. FriendlyCare should also consider their ability to meet USAID reporting requirements and the requirements of organizations that may become associated with FriendlyCare, including, but not limited to insurance companies, the Philippine government health system and future supporters, partners, and affiliates.

Prior to the submission of the Request for Information (RFI), FriendlyCare had performed a thorough needs analysis of the administrative and financial management requirements of their operations. A consultant retained by FriendlyCare for this purpose, performed this documentation. A similar needs analysis should be completed for the clinical requirements of FriendlyCare. FriendlyCare has completed a partial documentation of their clinical needs and plans to complete this clinical assessment by May 15. The requirements of USAID should be met given the functionality of the administrative/financial modules presented by each of the potential bidders under consideration. The requirements for insurance companies, the government's health system and future supporters need to be identified by FriendlyCare leadership. Annex J contains an overview of the software modules that FriendlyCare should include in product acquisition.

<p>It is highly recommended that a comprehensive needs analysis be completed for the clinical needs of FriendlyCare before any contract is awarded to purchase or lease the administrative/financial and clinical software.</p>

In addition to considering alternative software packages, FriendlyCare is faced with some major operational issues. Currently, FriendlyCare does not have centralized electronic medical records that can be accessed from each clinic location. Each clinical record is located in the database of the clinic where services have been performed. Therefore, physicians do not have access to a patient's record should the patient move from clinic to clinic for his or her healthcare. (NOTE: The ability for the patient to move from clinic to clinic is stated in the corporate objectives of FriendlyCare.) Second, although FriendlyCare has developed protocols for the physicians and nurses to record clinical information into the patient's electronic medical record, some physicians may not follow these protocols of placing patient data in consistent locations within the electronic medical record. This inconsistency will require a careful migration of data from the current HMIS to the new clinical information system that is selected. Third, the administrative/financial data for FriendlyCare has been recorded in Excel spreadsheets because of a lack of an automated information system. To create a comparable history of the administrative and financial operations, FriendlyCare will have to migrate all the old Excel spreadsheets to the new system.

In summary, the migration of administrative, financial and clinical information from the current Excel sheets and HMIS to a new database will require careful planning and monitoring.

It is recommended that FriendlyCare seek assistance from the successful bidder to migrate this data to the new system.

V. SOFTWARE SELECTION CRITERIA

Friendlycare has established a working committee for the purpose of coordinating the software selection and overseeing the implementation process. Dr. Juvencio F. Ordon, Chief Operating Officer (COO) of Friendlycare is the chair of this committee. The information systems manager is the project coordinator and will handle daily communications with software vendor(s). The proposed composition of the committee is found in annex G. This committee will make their software recommendations to the management executive committee (MEC) of FriendlyCare, which will make the final decision about the vendor.

One of the initial acts of the working committee was to request the director of health standards and quality division to identify FriendlyCare physicians who can articulate the clinical needs for new software. These physicians have begun to meet and will complete their definition of need by May 15.

The final selection of the vendor(s) should not only be based upon the needs analysis for FriendlyCare, but also consideration of a number of other factors. These include, but are not limited to:

- The financial and organizational stability of the software organizational operations in the Philippines.
- The ability of the organization to offer an integrated administrative and clinical information system.
- The experience of the organization with information systems in the healthcare field in the Philippines.
- The organization's ability to purchase any of FriendlyCare's excess hardware (personal computers and servers) and licenses to reduce the over-all expenditures for the new information system (should the final software selection be web-enabled). Annex E provides a cost benefit analysis of a client-server versus web-enabled software and considers the cost of connectivity for each option.
- The organization's ability to successfully implement the software to meet FriendlyCare's time line.
- The ability of the organization to customize the software modules to meet the needs of FriendlyCare.
- The organization's history of technical support with their clients.
- The organization's ability to provide initial and on-going training.

- The availability of client-server and web-based software to meet FriendlyCare requirements now and in the immediate future.
- The total price.

FriendlyCare is encouraged to establish clear criteria, similar to the above, prior to making their final selection of software for the administrative, financial and clinical software system.

VI. IMPLEMENTATION PROCESS

A tentative work plan for the selection and implementation of the new software system has been developed and presented to the working committee by the information systems manager for consideration. (See annex H) There is significant resolve by FriendlyCare to fully implement the new system no later than October 15, 2002. Other target dates between now and October 15 may change, dependent upon unforeseen implementation delays. However, the working committee agreed that the final implementation date should not change.

It is recommended that the working committee create a Gantt chart, similar to that provided in annex H, to plan and monitor the implementation progress.

Further, the working committee should develop a document that includes at least the following:

- A definition of the project objectives and the end results to be achieved;
- The names and accountability of each member of the working committee who will assume some responsibility for the implementation of the new system;
- The impact the new system will have on each FriendlyCare department;
- The resource requirements for the installation, implementation, and training aspects of the project;
- The budget requirements of the new systems including the purchase of sale of equipment (PCs and servers), cost of licenses; and the cost of other operational equipment;
- The deliverables for each component (module) of the system. (These deliverables should include the number, types, and frequency of reports that can be produced, the effect on the quality of care to be provided, and the ability to generate additional patient revenues, etc.); and
- As part of the implementation strategy, consideration must be given to the changes of operational policies and procedures that are likely to occur with the introduction of a new information system. These operational policies may change patient flow and the number of employees required to process the patient at various stages of patient flow within each clinic.

It is recommended that the new patient flow created by a new information system, be documented in advance of implementing the information systems clinical modules, to anticipate changes of policies and procedures that may be required along with the increase or decrease of employees at each work station

VII. OBSERVATIONS AND RECOMMENDATIONS

FriendlyCare has embarked upon a positive effort to markedly improve their information systems and therefore to advance the administrative, financial, and clinical information available for the management of daily operations. This effort began in mid-2001 and should be completed by October 15, 2002.

Shortly after the initial review of information systems began in 2001, there was a significant turnover of FriendlyCare leadership, including the departure of the former information systems manager. This change of personnel delayed the decision making process for the selection of an information system that would meet the future needs of FriendlyCare. However, now that a new management team is in place, the process of selecting an information system is proceeding well.

The consultant reviewed and evaluated the process FriendlyCare is using to solicit and select a new information system, and feels comfortable in validating their overall efforts. During the time spent at FriendlyCare, the consultant had the opportunity to interact daily with the information systems manager and all other members of the FriendlyCare management leadership. During this time, a number of verbal recommendations that have not been documented in this report were made. However, it can be said that all recommendations made were seriously considered and discussed, with some being implemented immediately.

In addition to the recommendations made in the text of this report, FriendlyCare was encouraged to consider the following:

- The final selection of administrative/financial software and the clinical software should be based upon the ability of the vendor(s) to provide one or more databases that are centralized, on-line and can be accessed through a single report writing module. (This assumes that FriendlyCare will proceed with the donated administrative/financial software plus an outside vendor for the clinical information system.)
- The final selection of the new software should consider the following:
 - The time frame in which vendor(s) are capable of installing their software should be clearly stated.
 - The number of hours/days they will include for training FriendlyCare personnel should be defined.
 - The terms and conditions of the software lease (should a lease be proposed) require clear description.
 - The annual maintenance costs for the system need to be spelled out.
 - A description of the technical support provided e.g. 24/7 or 8/5, is required.
 - A description of how the vendor handles software upgrades and the respective costs should be described.

- Should any vendor propose an Application Service Provider (ASP) model, the vendor should submit the initial terms of the Service Level Agreement (SLA) simultaneously.
 - A description of the security system embedded in the software that limits access by unauthorized personnel should be included in each vendor's bid.
 - The project management team should establish the priority of each software module, the sequence of implementation, and the start and finish date to install each module.
 - FriendlyCare representatives should be identified for each module to be implemented and be held accountable for the complete implementation of the module. Some of the duties and responsibilities of these representatives should be to:
 - i. Document how the current module function,
 - ii. Define the desired outputs of the module e.g. types of reports, etc.,
 - iii. Identify how each module will change current operational requirements e.g. new equipment, more or less FTE employees, and patient processing changes,
 - iv. Identify the policies and procedures that will need to be changed as a result of the installation of the new module.
-
- The centralized databases should be adequately protected from redundancy.
 - The report writing software should be able to access both the administrative/financial and clinical databases to ensure reports can contain a combination of administrative, financial, and clinical data.
 - FriendlyCare should create policies and procedures that clearly define the protocol for changing or adding report formats.
 - FriendlyCare must be prepared to change its current operating policies and procedures to reflect any new information systems that are installed to meet the revised organizational strategy. These changes will require support from the executive team and the board of trustees.
 - The project management for the selection and implementation of a new administrative/financial and clinical information system will be critical for FriendlyCare to successfully achieve its target installation date of October 15, 2002. This project management, the establishment of benchmarks and the monitoring of the progress of implementation should be the responsibility of one or more members of the working committee.
 - FriendlyCare should consider updating and improving their existing web site.
 - The executive management of FriendlyCare should make an announcement to all FriendlyCare employees that the implementation of the new information system should be their number one priority, after patient care, over the next six months.

- Parallel to the selection and implementation process, a plan must be developed to consider how to migrate the current administrative, financial and clinical data to the new information system.

The following is a list of the recommendations embedded in the text of this report:

- It is highly recommended that FriendlyCare not attempt to resurrect their current HMIS, and to acquire a clinical software package that has been proven to be effective in an outpatient environment.
- It is highly recommended that FriendlyCare acquire integrated administrative and clinical software.
- Online capabilities will be essential to the success of FriendlyCare in the future.
- It is recommended, all costs being equal, that FriendlyCare select a web-enable software to meet its current and future needs for an integrated, online administrative and clinical information system.
- It is highly recommended that a comprehensive needs analysis be completed for the clinical needs of FriendlyCare before any contract is awarded to purchase or lease the administrative/financial and clinical software.
- It is recommended that FriendlyCare seek assistance from the successful bidder to migrate this data to the new system.
- FriendlyCare is encouraged to establish clear criteria, similar to the above, prior to making their final selection of software for the administrative, financial and clinical software system.
- It is recommended that the working committee create a Gantt chart, similar to that provided in annex H, to plan and monitor the implementation progress.
- It is recommended that the new patient flow created by a new information system, be documented in advance of implementing the information systems clinical modules, to anticipate changes of policies and procedures that may be required along with the increase or decrease of employees at each work station.

Although the consultant had to leave the Philippines prior to FriendlyCare making a final software selection, it is opined that the software packages under consideration can meet the information system needs of FriendlyCare. The consultant would recommend that the combination of the Soluziona software for clinical operations along with the administrative and financial software donated to FriendlyCare by 25*8 would provide FriendlyCare with the most flexible and cost effective alternative. Even though this recommendation is not a fully integrated package, the consultant agrees with the opinion of the information systems manager, that a report writing software such as Crystal Reports, will be able to bridge the two databases (provided they

are Sybase) to extract the necessary reports FriendlyCare requires for its daily operations and to meet the contractual requirements of USAID.

An in-depth discussion was held with the information systems manager and the chief financial officer (CFO) to review the FriendlyCare software and connectivity alternatives. It was concluded that should FriendlyCare select the Soluziona clinical software in May, there would not be sufficient time for Soluziona to web-enable their software by the desired October 15 date for implementation. Therefore, FriendlyCare may select the Soluziona client-server based software initially and switch to the web-enabled software several months after Soluziona is able to provide a tested web-enabled version. To avoid significant connectivity costs associated with direct connections between each of the clinics and the Shaw Headquarters, 56k connectivity may be selected. Although the users of the 56k line will not experience a lot of speed in the transmission of data, it was felt that the slow speed would be tolerated for a period of 2–3 months, given the significant cost savings of the 56k line versus direct connectivity.

As FriendlyCare progresses through the final selection and implementation stage of this project, there will be a number of project adjustments, such as that described above, which may have to take place. These adjustments should be made provided they result in a cost effective, long-term solution to the administrative, financial and clinical information system requirements of FriendlyCare.

In conclusion, the October 15 installation date is feasible if proper resources in FriendlyCare and the vendor(s) are dedicated to this task.

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ANNEX A
SCOPE OF WORK

1. The task

To assist our grantee FriendlyCare in the selection and implementation of an automated administrative system for their health center network and central office.

2. Background

Since 1999 USAID in the Philippines has supported the development of the Friendly Care Foundation as part of its strategy to expand sustainable family planning services. The Foundation, which is composed of ten health centers and supporting central office staff, is dedicated to providing, quality family planning and health services to individuals, at an affordable price. Effective administrative, financial reporting and medical information systems are important elements in the long-term success of the Foundation and its health centers. Over the past several years the foundation unsuccessfully attempted to develop an in-house system and is now undertaking a review of commercially available computer software to manage their administrative, accounting and health information needs. Since, in the Philippines there are few freestanding health centers of the size and breath of the FriendlyCare facilities, and few proven systems or individuals experienced in evaluating them, we seek a consultant to assist them in selecting and planning the implementation of their new system.

3. Information Sources

Descriptions of FriendlyCare Operations and activities will be made available to the consultant as well as existing work already undertaken in defining needs and requesting systems proposals.

4. Purpose of the Assignment

This assignment is intended to support FriendlyCare's effort to choose and implement the system, which best meets its needs. The consultant will review and recommend administrative systems for consideration by FriendlyCare and assist in the selection process. The assignment will require that the technical assistance be provided in close cooperation with existing in-country consultants and the IS and other staff of FriendlyCare.

5. Methodology

The consultant will be required to review commercially available systems before s/he arrives in Manila. While in country, working in concert with FriendlyCare staff, s/he will review current and future administrative system needs of FriendlyCare, their existing progress in selecting a contractor and make recommendations as necessary. The consultant will participate in the selection process as an advisor.

6. Team Composition

We seek a single individual who has knowledge and experience in designing and implementing administrative systems for networks of outpatient clinics such as FriendlyCare. S/he should have experience in selecting and operating similar systems and have the experience and capacity to translate that experience into recommendations. Experience in the developing world would be a plus.

7. Schedule and Logistics

The assignment will be for 18 days. Two of these weeks will be spent in country. The assignment will begin on or about the second week of April 2002 and be based upon a five-day workweek. A third week will be for research and preparation prior to arrival and the balance for consultations and review for up to three months upon return. Depending upon the arrival date there may be one national holiday during the assignment, in which case the stay will be lengthened by another day. MEDS will be responsible for providing all logistical support, although the Mission will be prepared to provide reasonable secretarial support and to assist in securing lodging.

8. Team Planning Meeting

None necessary

9. Financial Management

MEDS will be responsible for hiring and funding the Consultants activities. Acceptable costs include consultant fees, travel, lodging, report preparation, and other misc. expenses to be outlined in the proposed budget and approved by USAID Manila. Major Credit Cards are accepted in country and money can be exchanged at banks or through some cash machines.

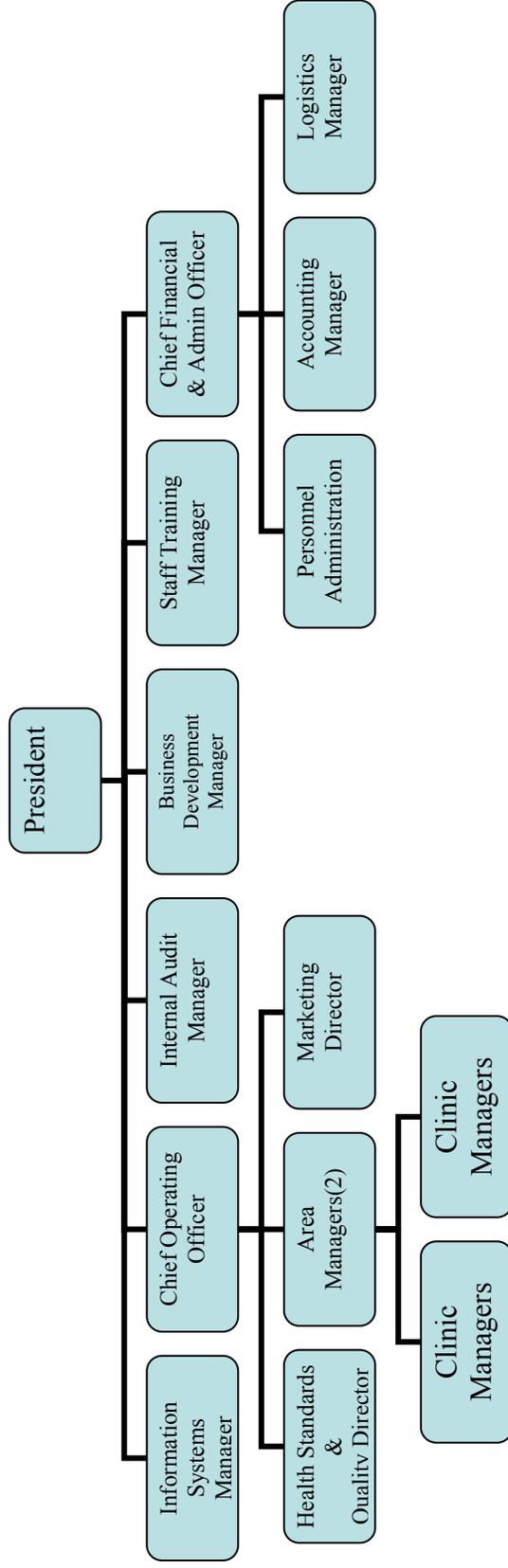
10. Deliverables

The primary deliverable will be the technical assistance that is provided in country. A final report outlining the basic needs of a system, selection criteria, and proposed process for installation and implementation is required. It should also outline the activities of the consultant during the assignment and recommend any additional actions necessary to complete the new system. Three copies of this report should be provided within two weeks of departure from the country

11. Budget

Please provide an estimate

ANNEX B
FRIENDLYCARE ORGANIZATIONAL CHART



ANNEX C
PERSONS INTERVIEWED

USAID

Neil Hollander, Senior Technical Advisor, Office of Population, Health & Nutrition,
USAID/Philippines
Jed Meline, Deputy Chief, USAID, OPHN, Philippines
Rebecca Ottke-Krzyda, Deputy Controller, USAID, Philippines
Ramon A. Saguinsin, USAID, Financial Analyst, Philippines
William E. Reynolds, PhD, USAID, Contract Officer, Office of Regional Procurement,
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FRIENDLYCARE

Dr. Alberto G. Romualdez, Jr., President
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David Tancicco, Internal Auditor
Pol Liberato, Jr., Manager, Information Systems
Lorenzo Macam, Information Systems
Dr. Juan Antonio A. Perez III, MPH, Director, of Health Standards and Quality Division
Juan Carlos Negrette, Consultant, Johns Hopkins University, Center for Communication
Programs
Sarah Severino, Consultant
Leyden V. Florido, R.N., M.A.N. Clinic Manager, Shaw
Yvonne S. Duque, M.D., Area Manager, Shaw, Pasig, San Juan, Pasay
Marilaine S. Francisco, RSW, Teen Center Officer, Shaw
Marilaine S. Francisco, RSW, Teen Center Officer, Shaw
Liza Zubiri-Masangkay, RMT, Shaw

OTHERS

Jesus Carrasco, Vice President, Technologies Asia Pacific, Soluziona, Philippines, Inc.
Charito B. Barretto, Senior Consultant, Soluziona
Rowena V. Santos, Senior Consultant, Soluziona
S. Gopalakrishnan, Business Development Manager, Basis Bay, Malaysia
William Ching, General Manager, Digital Dimensions, Inc. (MedTrak)
Natz D. Jucutan, Account Manager, Digital Dimensions, Inc.
Tonton R. Ancheta, Systems Support Manager, Digital Dimensions, Inc.
Larry Bortles, President, Amphil Tech, Inc.
Jamie Roa, President, Systems Generators, Philippines, Inc.
Frederick G. Gumaru, Operations Manager, Systems Generators, Philippines, Inc.

ANNEX D

CURRENT STATUS OF IN-HOUSE DEVELOPED HMIS

The clinical software currently used by FriendlyCare originates from the Philippine Department of Health. This software was developed specifically for single clinic operations in the Philippine provinces. It is estimated that this software is approximately five years old.

Although there are many good characteristics built into this software e.g. paperless medical record, there are also many shortcomings. The following are some examples:

- Patient records are not available from one clinic to another. In other words, should a patient receive care in the Shaw clinic, this record is not available in a second clinic. Basically, the software was developed for individual clinic operations, not for a network of clinics that would have on-line access to a central database.
- The software does not readily accommodate comprehensive primary care clinical records. For example, physicians have had to create “work arounds” to enter information about immunizations given to children. Physicians in outlying clinics, because of a question about the reliability of the electronic medical record, not only create “work arounds” that may not be consistent with the “work arounds” in the Greater Manila clinics, but also maintain a hardcopy of the patient’s medical record.
- The current software has a difficult time processing the volume of patient visits, laboratory tests, etc. in a timely fashion. Therefore clinic physicians and clinical staff have to wait for the computer to complete one task before they can enter another.

The conclusion is that:

- The time, effort and cost to fix the current system will be extremely complex and disruptive;
- A rewrite of the current HMIS is not guaranteed to be successful and may be more costly than the acquisition and installation of a new system;
- An updated version of the current HMIS will not provide FriendlyCare with a solid system foundation on which to grow FriendlyCare operations in the future;
- An updated version of the current HMIS will be very difficult to replicate should FriendlyCare and USAID wish to duplicate the FriendlyCare model in other countries (Note the Profamilia program in Columbia.)
- The administrative/accounting system currently being used by FriendlyCare has been created with Excel spreadsheets and is not integrated with the clinical operations. The continued use of Excel spreadsheets for financial reporting will limit FriendlyCare’s ability to perform financial analysis, produce financial and management reports, and, in general, evaluate its performance.

Pol Liberato, Jr., IS Manager for FriendlyCare, presented the following document to the Management Executive Committee of FriendlyCare on April 24, 2002. Current Status of In-house Developed HMIS

1. *Current HMIS is an in-house customized version of an unfinished and unimplemented DOH-RHU model²*
2. *The continuation of development of the DOH-RHU model by former IS development team was done without formal user specifications. Data gathering was done thru interviews of clinic, HSQD and operations personnel.*
3. *There were 3 major problems during customization of the DOH-RHU model by the in-house development team:*
 - *The design used was not for a network-based model and was not fit for online. DB modifications had to be done as a workaround solution. Problems like record locking and compatibility issues with Powerbuilder were encountered in Version 1, workaround solution was for use of Sybase SQL server anywhere Version 7 as backend system for ISC and BSC while Sybase Enterprise Version 12 was used for ASC.*
 - *DOH model did not have a financial module and IS development team did not have clear user specs for use in customization. Report requirements were constantly changing.*
 - *DOH-RHU was only fit for a single doctor model while FCFI's clinic model was for 3 Doctors: FaMed, Pedia and OB-GYNE. Current HMIS module design did not fit OB-GYNE functional requirements.*
4. *Batch upload module in Version 1 DOH-RHU model was only for monthly uploading via zip disk.*
5. *Report module problems resulted from incomplete user requirements and the only reports available from Version 1 were Weekly Reports needed by Clinic Supervisors for submission to Clinic and Area Managers. Specifications for adhoc and monthly reports were not available. Changes in retrieval arguments in the DB had to be done for generation of adhoc reports.*
6. *FriendlyCare report generation needed IS technical assistance to be produced and was not system generated by design.*
7. *Aesthetic enhancements on report layout had to be done for Weekly report on Number of Patients per Day According to Sex, Average Number of Patients per Day, Percentage of FP Patients by Age Group.*
8. *Final draft of user specs for FP module of Version 1 was not available resulting in an incomplete FP module rollout.*
9. *In DOH itself, the product system for Health Services was not DB compatible and only the FHSIS (field Health Services Information System) was compatible with their DB and DOH was still in the process of testing this module during Version 1 system development.*
10. *The formal user specifications for the In-house developed Version 2 of HMIS were not formally signed off as baseline specs for systems development work.*
11. *Version 2 addressed DB size allocation as Version 1 DB engine suffered from slow record access. Version 2 was designed by restructure the Client Profile and Medical Consultation Module but this was yet to pass User Acceptance Testing.*

² DOH refers to the Philippine Department of Health. RHU refers to a Rural Health Unit.

12. *Only the 5 basic programs for APE were available in Version 2 and new program to handle varied APE service bundles was not available.*
13. *Current HMIS has decentralized DBs, no consolidation of DBs and no online connectivity between disparate DBs.*
14. *Database integrity is not credible and accurate with current HMIS setup.*
15. *Ease of Backup and Recovery is currently not available.*
16. *Clinics have different hardware backup configuration design with no backup server provision provided for some clinics.*

Recommendations Made by Pol Liberato, Jr. at the Meeting

1. *New Integrated HMIS and Corporate System needs to be in place that will provide the following:*
 - *Seamless interface for both HMIS and Corporate System for Billing and Cashiering, Inventory, Payments, General Ledger, Accounts Receivable, Accounts Payable and Fixed Assets allowing for credible, accurate and timely system-generated reports for clinics and Corporate.*
 - *New Clinic-based integrated HMIS-Corporate System will include Patient Information System, Outpatient module, lab Module, Diagnostics module, Billing and Cashiering, Accounting and Inventory*
 - *Centralized DB for easiness of backup and recovery procedures*
 - *Flexibility in creating product and service offerings aligned with define business model without major coding effort*
 - *Audit trail reports for performance monitoring*
 - *Single point of contact for application and system requirements and warranty and support from single solution provider*
 - a. *Personnel Information System and Payroll are part of the integrated HIMIS-Corporate system*
2. *Online connectivity that will allow:*
 - *Real time transaction processing for both DB update and record access for all clinics and Corporate*
 - *DB synchronization and consolidation for a more unified view of the entire system across the organization*
 - *Consolidated and up to date reporting will be available from a centralized DB with users having quick and easy access to reports and data.*
3. *Review and consideration of ASP (Application Service Provider) model for new HMIS and Corporate System for a more cost effective implementation by:*
 - *Minimizing upfront and recurring Hardware and Software acquisition and maintenance costs as only lease payment of single application and DB software user license is necessary*
 - *Generating cost savings on future hardware acquisition and upgrade cost*
 - *Connectivity cost may either be pre-bundled or optional in the ASP package offer*
 - *Service Level Agreement coverage for Application and DB hosting and maintenance reduces operational costs for hardware and software maintenance*

- *Service Level Agreement guarantees Application and DB availability and periodic backup of application and system files and DB recovery facility, online connectivity is also guaranteed if part of the ASP package model*
- *Own provision for backup site for Business Recovery will not be necessary*

Solution Criteria Matrix for Integrated HMIS and Corporate System

SOLUTION PROVIDER SELECTION CRITERIA				
<i>Solution Provider</i>	<i>Integrated Solution for HMIS and Corporate system</i>	<i>Solution Delivery and Support Capability</i>	<i>Installed Bases</i>	<i>Cost</i>
<i>Soluziona Philippines</i>	<i>High</i>	<i>High</i>	<i>High – Fatima Medical Center, Chong Hua Hospital</i>	<i>Budgetary pricing for client server based solution at Php2.95M. ASP model pricing still to be submitted</i>
<i>Basis Bay Info Solutions</i>	<i>High</i>	<i>High</i>	<i>2 in Malaysia, 2 in Thailand, 10 in India</i>	<i>Budgetary pricing of client-server/web-based solution at Php10.8M (equivalent of \$207,608). ASP model pricing still to be submitted</i>
<i>Digital Dimensions, Inc.</i>	<i>Medium-Corporate System is provided by partner provider</i>	<i>High</i>	<i>Philippine Heart Center</i>	<i>Budgetary pricing at Php6.7M</i>
<i>Makati Technical & Healthcare Management, Inc.</i>	<i>Low-In-house developed solution</i>	<i>Low</i>	<i>MTEC Medical</i>	<i>Budgetary pricing at Php3M</i>
<i>AthenaHealth</i>	<i>Medium</i>	<i>Low – refuses to engage outside US</i>	<i>US based hospitals and clinics</i>	<i>ASP model charging by percentage of revenue</i>
<i>ProData</i>	<i>High</i>	<i>Medium</i>	<i>US based hospitals & clinics</i>	<i>ASP model upfront cost of \$380k, ISP connectivity cost of \$1000-1500 per clinic as upfront costs and \$75-100/mo thereafter</i>

ANNEX E

**COST BENEFIT ANALYSIS OF CLIENT-SERVER VERSUS WEB-ENABLED
SOFTWARE**

SELECTION AND IMPLEMENTATION OF A NEW INFORMATION SYSTEM FOR ADMINISTRATIVE, FINANCIAL,
AND CLINICAL OPERATIONS

VARIABLES (Estimates. To be modified with future bids.)

Software					Annual Costs
Payback period for web-based software vs. client server					-5.75Months
Client Server					1,800,000
Web-based					5,000,000
Deployment Costs					
Client Server					300,000
Web-based					0

Note: This cost will range from \$864,000to \$9,000,000

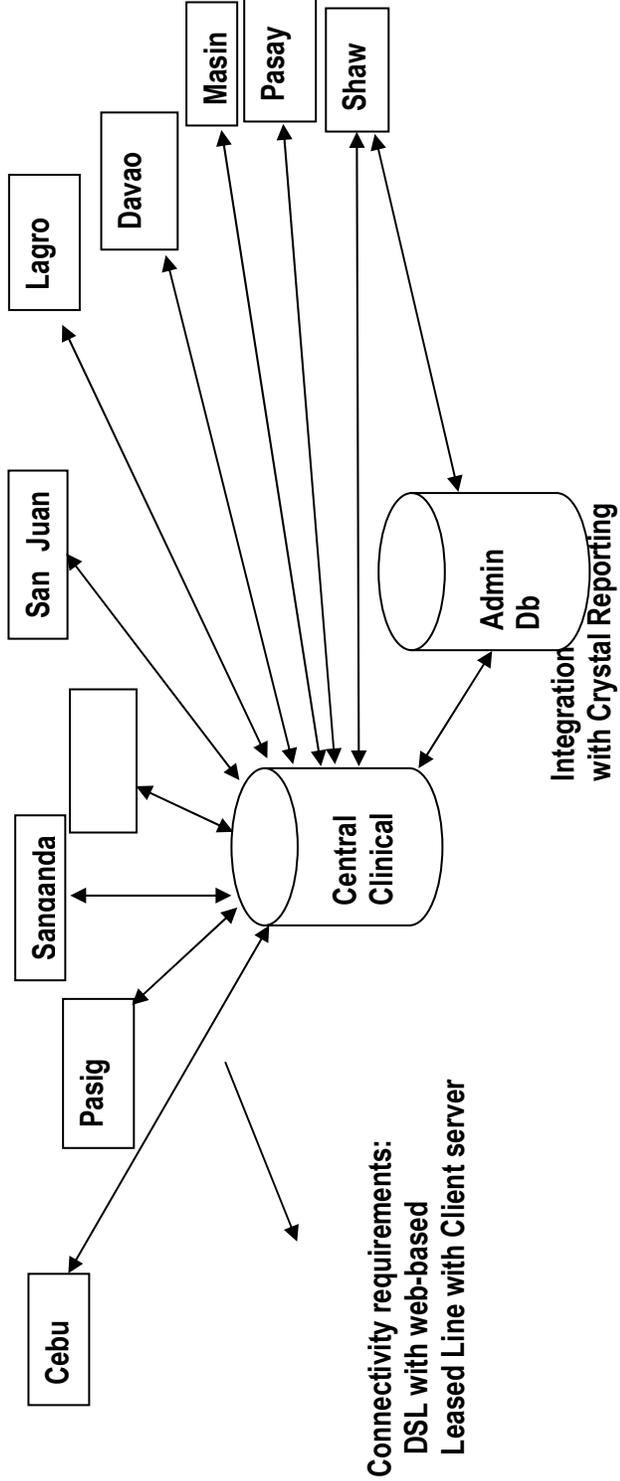
Communication Lines					
Lease line for client server	10	12	50,000		6,000,000
DSL for Web-based	10	12	18,000		2,160,000
Resale with Web-based solution:					
Servers		14	100,000		1,400,000
Licenses		9	10,000		90,000
Reduction of IT FTEs w/ Web-based		2	360,000		720,000

NOTE: The lease line costs vary by clinic location. The higher the cost, the higher the reliability. Should FriendlyCare choose to have lease lines for the Clinics in Davao and Cebu, the cost would be \$9,400,000 per year. If they only contract for lease lines in Metro Manila, the cost will be \$6,144,000 per year.

Cost Differential				
Incremental initial cost for web-based			3,200,000	
Elimination of one time cost for deployment			(300,000)	
Reduction of annual costs with web-based:				
	Communication Lines		(3,840,000)	
	Sale of Servers		(1,400,000)	
	Sale of Licenses		(90,000)	
	Other Reductions			
	Other Reductions			
	Reduction of employees		(720,000)	
			(6,050,000)	
	Monthly Reduction		(504,167)	

NOTE: FriendlyCare currently is not "online" and therefore not paying lease-line costs. However, should FriendlyCare implement the client server, then, when stable, move to a web-based model, these calculations demonstrate the potential cost savings by going to the web enabled system.

Connectivity for FriendlyCare Clinics



Payback Logic for a Web-based Solution vs. Client Server Solution
Connectivity Costs as of April 25, 2002 (1)

DSL Line Cost 18,000per month

Per Month per Clinic

	64k	E1	768	384	Bayantel
Metro Manila	9,000	64,000			
Cebu			156,000		106,000
Davao				169,000	160,000

Per Year per Clinic

	64k	E1	768	384	Bayantel
Metro Manila	108,000	768,000			
Cebu			1,872,000		1,272,000
Davao				2,028,000	1,920,000

	64k	E1	768	384	Bayantel	Lowest Price Range
8 Metro Manila	108,000	768,000				864,000 6,144,000
1 Cebu			1,872,000		1,272,000	1,272,000 1,272,000
1 Davao				2,028,000	1,920,000	1,920,000 1,920,000
						4,056,000 9,336,000

Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5	Totals
Web-Based						
Software purchase	5,000,000					5,000,000
DSL Costs	2,160,000	2,160,000	2,160,000	2,160,000	2,160,000	10,800,000
Cost Reductions:						0
Servers	-1,400,000					-1,400,000
Licenses	-90,000					-90,000
IT Personnel	-720,000					-720,000
Cash Requirements	4,950,000	2,160,000	2,160,000	2,160,000	2,160,000	13,590,000
Depreciation	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000

Client Server						
Software purchase	1,800,000					1,800,000
DSL Costs	6,144,000	6,144,000	6,144,000	6,144,000	6,144,000	30,720,000
Cost Reductions:						0
Servers	0					0
Licenses	0					0
IT Personnel	0					0
Cash Requirements	7,944,000	6,144,000	6,144,000	6,144,000	6,144,000	32,520,000
Depreciation	360,000	360,000	360,000	360,000	360,000	1,800,000

(1) Source: Pol Liberato's telephone inquiry with vendors.

ANNEX F

CURRENT INFORMATION SYSTEM PROPOSALS FOR FRIENDLYCARE

- **Makati Technical and Healthcare Management, Inc.** – Medical Consulting Group. A local organization incorporated in 1992 as a Philippine Corporation. Professes to have all of the modules required and can put them together in an integrated system to meet the needs of FriendlyCare. Server based system. Should visit the healthcare facilities where they have installations to verify their deliverables. Projected cost for the initial systems: P3,000,000.

- **Soluziona Philippines** – A Spanish company with a joint venture with Meralco in the Philippines. Soluziona offers both a client-server and a web-based system that will be supported locally by an organization that has experience in the Philippines. Initial cost estimates are:

○ HMIS including customizations	P 1,750,000
○ Accounting and G/L	P 500,000
○ Fixed Assets	P 300,000
○ Inventory	<u>P 400,000</u>
Total	P2, 950,000

- **Digital Dimensions, Inc. (DDI)** is a local distributor of **MedTrak**, a healthcare software company based in Australia. DDI also is a distributor of **Great Plains** software that provides the accounting functions for physician practices or hospital operations. DDI submitted a preliminary bid that was too high. They were asked by Pol Liberato, Jr. to reassess their pricing methodology and provide FriendlyCare with discount considerations.

- **Basis Bay** out of Malaysia has submitted a bid for a web-based, integrated health information system. They seem to be hospital oriented, but claim to be able to provide the modules needed by FriendlyCare. Basis Bay has a very comprehensive system, covering all aspects of hospital operations and inpatient services. They have not installed a healthcare system in the Philippines at this time and are looking for opportunities to establish a healthcare base in Manila.

- After a thorough search of practice management software in the United States, it was discovered that most practice management software companies do not have international operations. Therefore the installation, training and support for their software would not be a feasible alternative for FriendlyCare in the Philippines. However, several **Application Service Providers (ASPs)** were contacted and had interest in working in the Philippines. **ASPs** provide centralized software to multiple clients, giving each client a separate and secure database.
 - **AthenaHealth** is a subsidiary of Siemens. Siemens has an office in Manila, Philippines, however, after several exchanges of e-mails and telephone conversations, AthenaHealth decided to withdraw from the bidding. A representative at Siemens indicates that AthenaHealth has

their hands full in the US and has decided to turn down international business for the time being. They just turned down an opportunity to work in Australia.

- **ProData** in Seattle expressed an interest in the FriendlyCare and submitted an initial bid based upon very sparse specifications. The dollar amount submitted was extremely high. ProData stated that they would be interested in submitting a discounted bid, however, because the discount would have to be in the neighborhood of 90%, it was determined that we would not pursue **ProData** as an alternative.

- A Philippine organization named “**25*8**” submitted a donation of P1,000,000 of administrative software to FriendlyCare. “**25*8**” is an international software company, owned by one of the members of the board of trustees of FriendlyCare. They have multiple installations of many of their accounting modules including: G/L, A/R, A/P, Asset Management, Purchasing, Inventory, Human Resources and Payroll. Pol Liberato, IS Manager for FriendlyCare will examine some of the installations to verify their functionality. Further, Pol will verify that the database management system is on Sybase to easily integrate these modules with the vendor selected for the clinical information system.

Annex D contains a summary of the proposals received by Pol Liberato, Jr. and the initial pricing submitted by each vendor. This document was submitted to the FriendlyCare Management Executive Committee for their information on April 24, 2002.

ANNEX G

PROPOSED COMPOSITION OF THE WORKING COMMITTEE

Below is a copy of the proposed composition of a “working committee” charged with the selection and implementation of the new administrative and clinical information systems. This committee will be supplemented with individual users, from time to time, as the committee requires additional information concerning user needs, reports, and other deliverables for the new information system.

PROPOSED COMPOSITION OF THE IS COMMITTEES³

STEERING COMMITTEE: MEC

WORKING COMMITTEE:

CHAIRMAN

Dr. Juvencio F. Ordon, COO

MEMBERS

Leopoldo Liberato Jr., IS Manager *, Project Coordinator

Dr. Juan A. Perex III, HSQ Director

Rogelio V. Salipot, Accounting Manager

David H. Tancioco, Internal Audit Manager

Juan Carlos Negrette, Consultant

Sarah L. Severino, Consultant

Note: User department’s representatives to be determined later.

³ Developed by Pol Liberator, Jr., Sarah Severino, David Tancioco and Rogelio Salipot and presented to the FriendlyCare Management Executive Committee April 24, 2002

ANNEX H

**PROPOSED WORK PLAN - INITIAL GANTT CHART FOR THE PROPOSED
WORK PLAN**

Below is the initial work plan created by FriendlyCare⁴ for the selection and implementation of the new administrative and clinical information system. Following is a Gantt chart that depicts a tentative schedule of events. It is recognized that the work plan, dates and Gantt chart do not currently coincide and will change over the period of implementation. However, it is the objective of FriendlyCare to maintain October 15, 2002 as the target completion date for implementation.

**COMPUTERIZATION OF HMIS/CORPORATE SYSTEMS
WORK PLAN**

Systems Coverage: Health Management Information Systems
 Billing and Cashiering
 Fixed Assets
 Inventory
 General Ledger/Financial Statements
 Receivables
 Payables
 Cash Disbursements

Timelines:

Activity	Committee Responsible	Date
1. Presentation of work plan to MEC	Working Committee	April 24
2. Short listing of solutions providers	MEC	April 29
3. Price and terms negotiation with top (2) solutions providers	Working Committee	May 1-4
4. Evaluation of bids and selection of the best solution providers	Working Committee	May 6
5. approval and award to best solutions provider	MEC	May 9
6. Update of user requirements	Working Committee	May 2-15
7. Analysis and validation of user functional and technical requirements	Solutions provider	May 16
8. Business/system study and analysis by solutions provider	Solutions provider	May 16 to Sept. 30
9. Customization	Solutions provider	May 16 to Sept. 30
10. Systems integration and installation	Solutions provider	May 16 to Sept. 30
11. Systems testing	Solutions provider	May 16 to Sept. 30
12. Documentation, quality assurance and training	Solutions provider	May 16 to Sept. 30
13. User's acceptance and systems rollout	Solutions provider	May 16 to Sept. 30
14. Stable system with support and maintenance service from solutions provider	Working Committee	Oct. 15

⁴ Ibid

ANNEX I

**A REVIEW OF PRACTICE MANAGEMENT SYSTEMS AVAILABLE IN THE
UNITED STATES**

Prior to traveling for the Philippines, a thorough search of existing US practice management systems was completed by the consultant. This search was based upon the healthcare experience of the consultant with hospital and practice management information systems and supplemented with a directory compiled by the Medical Group Management Association (MGMA)⁵.

A number of the major providers of practice management systems were called to inquire about their international experience. Those contacted, including McKesson, Medic Computer Systems, Inc., Medical Manager Corporation, a4 Health Systems, Share Medical Systems (Siemens), AthenaHealth, PRODATA, Millbrook Corporation, and InfoCure/Vitalworks. These software organizations are well established in the United States and together, possess a significant market share of the physician practice management software business. However, none of these organizations had any experience in the Philippines and most responded that they did not plan to enter into the international market. Given that fact that that software for any practice management information system would require on-site installation and training, these organizations were eliminated from the list of considerations for FriendlyCare.

However, over the last several years, a new organizational structure has evolved that offers practice management information systems to remote locations via the Internet. These organizations, called Application Service Providers (ASPs) retain their practice management software at a central location and provide for a secure database that can be accessed only by a subscribing customer. Therefore, there is now need for the local installation of software and training modules can be forwarded to customers via the Internet. Two ASPs were identified as potential providers of practice management systems to FriendlyCare: AthenaHealth, a subsidiary of Siemens, and ProData, an ASP located in Seattle, Washington.

After a number of conversations and e-mail exchanges with representatives from each of these two organizations, AthenaHealth withdrew from making a bid on the project simply because of the lack of resources to assume responsibility for an international client. AthenaHealth stated that they had recently refused an opportunity to work in Australia and had sufficient work in the United States. ProData continued to be interested in working with FriendlyCare, however, their preliminary bid to provide the service was more than twice the most optimistic budget FriendlyCare had allocated for the information system acquisition. Even though ProData offered to discount their price, it was decided that even a 50% discount for the service would be considerably higher than the other opportunities provided to FriendlyCare. Therefore, ProData was eliminated from further consideration based upon price; serious questions about the reliability of connectivity between Seattle and the Philippines; and, the fact that ProData had made no software descriptions available for the FriendlyCare project.

⁵ Directory of software Vendors for Group Practice, Medical Group Management Association, 2000

ANNEX J
BRIEF DESCRIPTION OF FRIENDLYCARE NEEDS

SELECTION AND IMPLEMENTATION OF A NEW INFORMATION SYSTEM FOR ADMINISTRATIVE,
FINANCIAL, AND CLINICAL OPERATIONS

Modules or Reporting Requirements	USAID	FriendlyCare Executive, Administrative and Financial Management	FriendlyCare Clinical Management
<p>Income & Expense Statements:</p> <ul style="list-style-type: none"> • By clinic • Consolidated • Monthly/YTD • Quarterly/YTD • Budget Comparison 	As per contract with FriendlyCare	Financial statements should be made available to FriendlyCare management and USAID within 15-30 days after the end of each month/quarter.	
<p>Statistical Reports:</p> <ul style="list-style-type: none"> • Services rendered: <ul style="list-style-type: none"> ○ By clinic ○ Consolidated 	As per contract with FriendlyCare	Financial statements should be made available to FriendlyCare management and USAID within 15-30 days after the end of each month/quarter.	
Asset Reports	As per contract with FriendlyCare	Asset management is required to maintain a proper inventory of capital expenditures.	
General Ledger	The General Ledger to accommodate the needs of USAID.	The General Ledger should accommodate the management reporting requirements of FriendlyCare	
Accounts Receivable		FriendlyCare should anticipate the need to bill patients, insurance companies and the government in the future. Patient and other accounts receivable need to be aged and properly maintained to maximize the ability of FriendlyCare's to collect fees in the future.	
Accounts Payable		FriendlyCare will be able to better manage their cash flow with an automated accounts payable system.	
Human Resources		FriendlyCare requires the ability to maintain	

Modules or Reporting Requirements	USAID	FriendlyCare Executive, Administrative and Financial Management	FriendlyCare Clinical Management
		automated employee records including, but not limited to demographics, training, benefits, etc.	
Payroll		FriendlyCare can move from a manual to an automated payroll system that has the capability of direct deposit and to maintain appropriate records about employee benefit payments and other deductions.	
Inventory		FriendlyCare Logistics is currently not able to consolidate purchases, thus take advantage of volume discounts. Inventory levels should be established to minimize shortages.	
Marketing		The new IS should be able to extract data to satisfy the needs of marketing to enhance the growth of patient volume.	
Patient Registration		This is the front-end module to obtain patient information for clinical and administrative purposes. It must be linked with the electronic medical record along with the billing system.	Clinical input is required to ensure that the appropriate patient information is gathered at the time of initial registration and subsequent visits.

SELECTION AND IMPLEMENTATION OF A NEW INFORMATION SYSTEM FOR ADMINISTRATIVE,
FINANCIAL, AND CLINICAL OPERATIONS

Modules or Reporting Requirements	USAID	FriendlyCare Executive, Administrative and Financial Management	FriendlyCare Clinical Management
FriendlyCare Card		Acceptance of the FriendlyCare prepaid card that identifies the patient via bar codes and permits patient to receive services for a period of one year.	
Patient Scheduling <ul style="list-style-type: none"> • Physician visit • Minor surgery • Radiology 		FriendlyCare does not now require a patient scheduling system. However, this module should be available in the future to allow services to be provided at a designated time.	
Patient pays cash at time of visit		The patient billing should accommodate this requirement.	
Patient Billing: Patient Insurance Government Corporate Accounts		FriendlyCare currently does not actively bill patients. Cash payments at the time of service are the norm. However, as FriendlyCare evolves, a patient-billing module is likely to be required for corporate accounts, insurance companies and the government.	
Laboratory			The laboratory module should be linked to the electronic medical record to ensure results are automatically recorded and available to physicians.

Modules or Reporting Requirements	USAID	FriendlyCare Executive, Administrative and Financial Management	FriendlyCare Clinical Management
Radiology <ul style="list-style-type: none"> • Ultra Sound • Chest X-rays • Others 			The radiology module should be linked to the electronic medical record to ensure results are automatically recorded and available to physicians.
Pharmacy		FriendlyCare currently does not have an internal pharmacy. However, this module should be available for the future to integrate these services with the patient's medical record and to enhance patient revenues to FriendlyCare.	
Electronic Medical Record		FriendlyCare's current HMIS has an electronic medical record. There is no space in the FriendlyCare clinics for paper records to be maintained. The new medical record module needs top accommodate the current information that has been recorded.	
Clinical Reporting <ul style="list-style-type: none"> • Patient visits/day • Patient procedures/day • Injections • Other quantitative measures and outcomes 	FriendlyCare and USAID have a mutual interest in the outcomes of patient treatments in the clinical setting. The new software system should provide for a centralized database and flexible report writing characteristics to allow appropriate reporting of the results of FriendlyCare's clinical programs.		

ANNEX K

SUMMARY DESCRIPTION OF FRIENDLYCARE CLINIC OPERATIONS

Name	Type	Location	Size (Sq. Mts.)	Physician Services	Laboratory ⁶	Radiology ⁷	Minor Surgery	MDs ⁸	Support Personnel ⁹	Patient Visits/Day ¹⁰
Masinag	ISC	Antipolo City, Rizal	200-300	Primary Care, Pediatrics, Family Planning	See attached list of tests	Chest X-rays Ultrasound		9	10	
Shaw	ASC	Mandaluyong City, M. M.	800-1,000	Primary Care, Pediatrics, Family Planning	See attached list of tests	Chest X-rays Ultrasound	Tubal Ligation Vasectomies	10	13	200-300
Davao	ASC	Davao City	800-1,000	Primary Care, Pediatrics, Family Planning	See attached list of tests	Chest X-rays Ultrasound	Tubal Ligation Vasectomies (Performed in local hospital)	8	5	200-300
Lagro	ISC	Quezon City, M. M.	200-300	Primary Care, Pediatrics, Family Planning	See attached list of tests	Chest X-rays Ultrasound		9	9	
San Juan	BSC	San Juan, M. M.	50-100	Primary Care, Pediatrics, Family Planning	No Lab	No X-ray	N/A	8	3	
Pasig	BSC	Pasig City, M. M.	50-100	Primary Care, Pediatrics, Family Planning	No Lab	No X-ray	N/A	6	2	
Cebu	ASC	Cebu City	800-1,000	Primary Care, Pediatrics, Family Planning	See attached list of tests	Chest X-rays Ultrasound	Tubal Ligation Vasectomies	9	14	200-300
Sangandaan	ISC	Kalookan City, M. M.	200-300	Primary Care, Pediatrics, Family Planning	See attached list of tests	Chest X-rays Ultrasound		6	8	
Cubao	ISC	Quezon City, M. M.	200-300	Primary Care, Pediatrics, Family Planning	See attached list of tests	Chest X-rays Ultrasound		10	8	
Pasay	ISC	Pasay City, M. M.	200-300	Primary Care, Pediatrics, Family Planning	See attached list of tests	Chest X-rays Ultrasound		5	8	
Headquarters		Headquarters							53	
A. TOTALS								80	133	

⁶ A description of laboratory tests is attached.

⁷ A description of radiology procedures is attached.

⁸ Total number of physicians, not full time equivalents.

⁹ Total current non-physician FTEs at Friendly Care is 132.

¹⁰ Four patients per hour, nine hours per day, six days per week

ANNEX L

**PRESENTATION MADE TO THE FRIENDLCARE MANAGEMENT
EXECUTIVE COMMITTEE AND USAID**

A. FriendlyCare is faced with many decisions about its clinical and administrative Information System.

IS decisions should not be made in isolation but rather be based upon the strategic plans of the organization.

Based upon the 2002 Business Plan Friendly Care recently developed, the organization strategies are:

1. Develop new Basic Family Health Services (BHFS) business model
 - a. Sustainability
 - b. Efficient
 - c. Effective
 - d. Attractive for others to replicate
2. Diversify Funding Sources
 - a. Decrease dependence on one donor
 - b. Seek funds to expand operations
 - c. Enhance the sustainability of operations
3. Strengthen Collaboration with Government at different levels
 - a. Obtain accreditation from the DoH, PhilHealth, and other related agencies
 - b. Broaden FriendlyCare's Client Base
 - c. Become a private sector partner for government agencies for the delivery of family health and family planning services.
4. Intensify and expand marketing and advocacy programs

B. The IS related decisions that have to be made to support the above strategies are:

1. Should the current HMIS be updated to HMIS2 and be added to a corporate IS system or, should FriendlyCare purchase a combined clinical and corporate system that can be modified to meet the FriendlyCare specifications?
 - a. It is my view that attempting to modify the current HMIS will not allow FriendlyCare to achieve its strategic objectives.
 - i. A modified HMIS will be difficult to replicate and sell to other programs because of the lack of documentation. Pol Liberato has documented the technical issues related to the current HMIS.
 - ii. It is not yet known how the current HMIS would interface with a proprietary system to provide a combined clinical and administrative system.

- iii. A proprietary vendor for both the clinical and administrative system could be used by FriendlyCare to replicate the product to other areas/countries.
- b. The current HMIS may not be able to be easily modified to meet the changing environment and needs of FriendlyCare:
 - i. FriendlyCare may wish to expand services in the future, adding Pharmacy or other services. Using in current HMIS will require FriendlyCare to develop these new systems in-house versus being able to purchase a module from a proprietary vendor.
 - ii. The reporting writing feature in the current HMIS requires programming to generate new reports. The report generating capabilities of systems purchased from proprietary vendors are all superior and very flexible tools that are not dependent upon programmers.
- c. A modification of the current HMIS will not allow combined management reporting of clinical and financial data.
- d. One of the most important characteristics of an organization is to have data integrity. The current HMIS does not provide for this data integrity because programmers and users have had to make many undocumented “work arounds” to make the system meet their needs.

2. Should the IS system be client-server or web-based?

- a. This may be a question that can be answered based upon a cost-benefit analysis. Consideration should be given to:
 - i. Cost of the software for client-server or web-based
 - ii. Cost of servers and software licenses
 - iii. Cost of the communication linkages
 - iv. Cost of IS staff to maintain the system
 - v. Cost of data redundancy and disaster recovery
- b. With all costs being equal, I would recommend selecting the web-based system.

3. Should FriendlyCare provide on-line capabilities to all users or update a central database on a daily or weekly basis?

- a. To meet the growing needs of FriendlyCare and to meet the needs of planning, marketing to develop affiliations and expand the business, I would recommend that FriendlyCare opt for an on-line system with a single, centralized database.
- b. A single, centralized data base will reduce the cost of equipment acquisition (servers) and software licenses, diminish the need to significantly increase the IS staff, and provide for a simple redundancy and disaster recovery plan.
- c. FriendlyCare will not have a competitive advantage in the market place with a batch system.

- d. FriendlyCare advertises patient access to all clinic operations. A batch system will not easily support this advertising claim. Therefore employers and patients may question the integrity of FriendlyCare's advertising.
4. Which vendor should be selected to provide the Corporate and/or Clinical system?

Seven vendors have presented preliminary proposals for integrated administrative and clinical systems for FriendlyCare. Some of the characteristics that should be considered in the selection process include:

- a. Meet the functionality requirements of FriendlyCare
 - b. An integrated clinical and administrative system (database)
 - c. Comprehensive report writing capabilities
 - d. Experience with healthcare installations
 - e. Experience in the Philippines
 - f. Flexibility to meet the current needs of FriendlyCare and to be able to customize modules to meet future needs e.g. adding new clinic locations
 - g. Ability to add modules in the future e.g. pharmacy and maintain the integrity of the system.
 - h. Price
 - i. The effect on the future operational costs of FriendlyCare e.g. the need for continued manual reporting, the addition of programming staff, the cost of connectivity between clinics and headquarters.
- C. Once final decisions are made on the above questions, FriendlyCare must focus its energies on the successful installation of the system in a timely basis. I recommend that consideration be given to the following:
- 1. Establish a date for the completion of the installation and inform everyone in the organization of that date. Currently, that date is October 15.
 - 2. Establish a project coordination team that includes at least one clinical representative and one operations representative.
 - 3. The executive leadership of FriendlyCare should announce to all employees that the installation of the new system is a top priority and that they should schedule their time accordingly.
 - 4. The project committee should identify individuals in the organization who will be accountable for the implementation of each module in the new system.
 - 5. Benchmarks should be established and monitored by the project team weekly.
 - 6. Include a penalty clause in the contract with the vendor should the vendor not be able to meet the specified time requirements for implementation.

7. Monthly progress reports should be made to the MEC and to representatives from USAID. USAID representatives should meet with FriendlyCare representatives at the Shaw headquarters to review the progress of the project.

D. In summary,

1. The process FriendlyCare is using to select a vendor solution is sound. However, the biggest deficiency is the lack of documented needs of the clinical end-users that have not been presented to the potential vendors. Documentation has been developed for the corporate requirements e.g. accounting, and is ready to be presented to the vendor. Clinical users need to document their needs and present them to the potential vendors to ensure the vendors ability to deliver.
2. The project coordination team needs to be established immediately to select the final vendor solution and begin to develop an implementation work plan.
3. A communication plan should be developed and disseminated immediately to all employees and physicians that describe this project and the timetable you want to achieve.
4. Parallel planning must begin to consider how to migrate the current information to the new system.
5. The October 15 completion date is feasible to achieve if proper resources in FriendlyCare and the vendor are dedicated to this task.

ANNEX M
FRIENDLYCARE MANAGEMENT EXECUTIVE COMMITTEE MEETING
SUMMARY
APRIL 24, 2002

1. A decision was made not to continue to develop the current HMIS.
2. A users group will meet with Doc JP to finalize their needs and better define the deliverables of the new HMIS. Every effort will be made to finalize these needs by May 15. A meeting with the potential vendors will be established so the defined deliverables can be presented and a determination made about the ability of the vendor to meet the specifications.
3. 28x5 has been selected to install the administrative systems. It was recommended that the Administrative system database be in Sybase. It is recommended that the new HMIS be compatible with the Administrative system. The databases need to be compatible to maximize the ability of integration of the two systems.
4. There was agreement that the final installation date should be October 15, the timetable for various tasks may be changed from those presented in the meetings. The primary reason for these changes is to accommodate the clinical users to provide them with time to define their needs.
5. The decision about web-based or client server should be based upon the overall costs of provider including reselling servers etc.

ANNEX N
FRIENDLYCARE COMMENTS

1. ***On the recommendation for FriendlyCare to have an integrated HMIS and Corporate system***, though we would have two separate providers, Soluziona for HMIS and 25*8 for the Corporate system (this being borne out of a donation from Mr. Doy Veal, FCFI Board of Trustees member), project delivery for both applications will be using Sybase as Database. This would make integration work a lot simpler and less costly. We will, at a future date, finalize selection on which vendor will do the integration. Initially, system design will address file sharing and data interface requirements for both HMIS and Corporate system.
2. ***On the conduct of detailed Needs Analysis for the new HMIS***, we are in the process of formulating and finalizing User Requirements Definition for the following HMIS Database fields: Client Information; Vital Signs; Family and Past Medical History; Chief Complaint; Immunization; Common Diagnosis (now Common Illness taken from ICD10); Review of Systems; Physical Findings and Differential/Rule Out (now Impression). The DOH Sentrong Sigla programs for TB-DOTS, IMCI, Diabetes, Rabies, etc. as well as our core services for Family Medicine, Pediatrics, OB and Gynecology and Family Planning user requirements are also being documented and finalized based on existing protocol.
3. ***On the conduct of Needs Analysis for the Corporate system***, we are currently formulating and finalizing User Requirements Definition for GL/Accounting (incorporating the specs for USAID requirements for cash and accrual basis reporting, and use of Chart of Accounts), developing the Asset Code classification and report requirements definition for Fixed Assets and Inventory and workflow and user requirements definition for HR Online and Payroll.
4. ***On the recommendation that our new systems will be online***, we are currently considering using DSL connection with 512 kbps speed in lieu of Leased Line connection to save on cost. However, per our discussion with PLDT on their DSL connection, they mentioned that this service is designed primarily for internet connection use and our initial intention to use it for application data transfer and to cutoff internet connection so as to avoid traffic congestion over the web will be negated. We are awaiting PLDT's quote for Frame Relay with committed bandwidth and baudrate, which will be based on Soluziona's minimum requirement for line speed in consideration of application requirements. Same holds true for 25*8's Corporate system.
5. ***On the recommendation that we go web-based***, I chose not to prioritize web-enabling the new HMIS from Soluziona and the Corporate system from 25*8 for this year as per industry statistics, there is no stable and mature web-enabled implementation yet as web-technology isn't proven to be quite mature and robust, and ISP level of service for internet connection hasn't been that reliable to date. There is likewise the web-enabling cost of additional Php 1.2M for the new HMIS and the cost saving of which will be augmented by cost savings from opting for the cheaper Frame Relay online connectivity rather than Leased Line connection.

6. Likewise, cost saves in terms of connectivity expenses will be negated for web-based solutions using DSL since we will have to install the Firewall software in all clinics as safeguard from hacking and other external web threats, with each Firewall costing around Php 1M.
7. The finalization of contract terms and conditions and pricing of Soluziona will commence soon as we get formal USAID approval on the MEC approved recommendation to award the new HMIS development contract to them in the MEC meeting held last May 13, 2002.
8. ***On the recommendation that we have redundancy for our new HMIS and Corporate system***, we are currently considering evaluating clustering softwares for this purpose and are currently doing inventory of all our available hardware for configuration compatibility to address redundancy requirements. Existing servers deployed in clinics may be centralized for use in redundancy initiatives with individual clusters for the new HMIS and Corporate system Database, Application systems, web mail and intranet MS Exchange and other system requirements. We will thus be able to reuse existing IT hardware and may not need to sell all of the excess servers we have.

Prepared by: _____
LEOPOLDO L. LIBERATO, JR.
IT MANAGER

Date: May 21, 2002