

Southwest PA AHEC (Area Health Education Center)

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I. The Consulting Situation

The Organization

The Southwest Area Health Education Center (AHEC) is a non-profit organization that was founded 6 years ago. It serves Allegheny, Armstrong, Beaver, Fayette, Greene, Washington and Westmoreland counties within Pennsylvania. The organization helps address health care access issues in rural and urban underserved communities by taking a longitudinal approach to health workforce issues.

The essential mission of AHEC is *to help medically underserved communities meet their primary health care needs by creating a statewide infrastructure bridging academic and community resources*. The AHEC mission is accomplished through the following activities:

- . *Facilitating the recruitment and retention of primary care providers in underserved communities through education and training programs.*
- . *Developing an education and communication network to provide consultation, technical assistance, education, and other professional support for community based primary care practitioners.*
- . *Increasing the number of individuals from minority and underserved communities and populations who enter primary care and allied health professions.*
- . *Evaluating and addressing public health needs of communities within and among the regions, and providing innovative multidisciplinary responses to those needs.*

In the short-term, AHEC aids the retention of the existing health care workforce in underserved areas by addressing issues of professional development, such as continuing education, technical assistance and affiliation with academic health centers.

Recruitment of health professionals, for the near-term and mid-term, is aided by developing new primary care training programs, expanding existing ones and enriching curricula to provide greater emphasis on communities and primary care. The AHEC works with the community and the academic institution to provide placements for students who are training to be physicians, nurse practitioners, physician assistants, dentists, and for other health professions at specific community based sites. It is hoped that by exposing health professionals, during their training, to the rewards and challenges of practice and lifestyle of rural and underserved communities, that more health professionals will choose to practice in those environments. AHEC also co-sponsors the Pittsburgh Schweitzer Fellows Program, a cohort of committed health professions students who act on their idealism by developing direct service projects working with underserved populations.

AHEC also takes a long-term approach to assuring an adequate future health workforce. Research shows that students from rural areas, for example, are more likely to choose rural practice. The goal of the organization is to develop a continuum of programs and supports to encourage and prepare more students

from rural, disadvantaged and minority communities to pursue careers in health care. These include science and math enrichment programs, mentoring and shadowing, health career programs, and health career clubs. In addition, AHEC works with communities on health promotion and public health issues, and also sponsors conferences addressing health and human service issues of concern to communities. (See the Appendix A)

The main clients for this organization are rural and underserved communities, community-based health professionals who serve as preceptors (teachers and mentors) for students, health professional schools, and students. Overall, the Southwest AHEC interacts with approximately 1000 people throughout the year.

The AHEC is located in the Point Breeze Neighborhood of Pittsburgh. Offices are located in the basement floor of the Lexington Technology Park Building in a joint occupancy with a non-profit organization called Healthy Start. There are three office rooms that are used by current staff members. There is one more open workspace, which is used as an Intern's office. A computer and printer are provided in each office and one multi-purpose fax machine can be found in Administrative Assistant's office.

The yearly budget of the organization is about \$400,000. The AHEC receives primary funding from the Federal Health Resources and Services Administration, as well as from the Pennsylvania Department of Health.

Joe Ambrosino joined AHEC as Clinical Director in 1997 and has been the Executive Director since 1999. He is responsible for daily operations within the organization, and reports to the Board of Directors. Currently, there are three more full time employees that work for AHEC. Tomi Waters has been working as a Health Planner for 4 years and she is responsible for school-based programs, health promotion and workforce development. Carole Perry, the Clinical Director, is responsible for professional education and teaching sites. Kristy Moore, an Administrative Assistant, has been in the organization less than a year. She does finance and other administrative work for AHEC. The organization also engages the part-time services of a Family Physician from the University of Pittsburgh School of Medicine who serves as Medical School Liaison. There is an intern position that is filled yearly by the Americorps Program and focuses on a tobacco prevention program for students.

The Technical Environment

AHEC has five functional computers, each manufactured by Gateway with a Pentium processor. Each staff member has use of a computer and a printer. Three computers are running the Windows 95 operating system. The two computers used by the Executive Director and Administrative Assistant, running Windows ME and Windows 2000 respectively. All five computers have the Microsoft Office Professional 2000 program installed. Each computer has a modem and some have Ethernet cards installed. Currently each employee uses a separate phone line and Internet access account such as AOL or Stargate. (See the Appendix B)

The staff members mainly use MS Word and Excel to produce necessary documents such as contact lists of people who have attended their conferences and programs. The Executive Director creates and maintains the organization's web site using Front Page, with some assistance from an outside consultant. He also keeps all the records of their programs and conferences and emails his clients when it is necessary. Mr. Ambrosino uses MS Outlook only for the calendar feature because AOL does not support Outlook. He sends and receives all email through his AOL email account. He also creates newsletters, booklets for

some conferences, and other publications using MS Publisher. The administrative assistant uses software called Peachtree for her finance work.

Problems & Approaches

A. Information System - Database

Problem. The most significant technology problem for the organization is that they store data in many different formats such as MS Word, Excel, or paper format. Including the Executive Director, all the staff members have used whatever software they feel comfortable with to produce the necessary documents. For this reason, they do not have the flexibility to easily merge or relate one document to another, without duplication and unnecessary work and time. There are several documents created for each conference or program. Although the conference or program folders that contain the related documents are well named, finding a certain document is still a difficult task. Given that many of their clients attend more than one conference or program, or serve in more than one capacity, their contact information may be duplicated in several files. This makes it more difficult, for example, to send a mailing to multiple groups of constituents because there may be several duplicate contacts. The problem also occurs when they try to edit the contact information. When there is a change in certain person's contact information, unless the staff goes through each and every one of the documents and changes the information, the old and incorrect information could be left unchanged in some.

Approach. A new database that keeps all the business information in a uniform format was needed. By storing data in a uniform format the problem of duplicated documents could be solved. In the ideal situation, with the new database, a master list could be created, and linked to all the other program documents. Therefore, when a change is made in certain client's contact information, the staff needs to only change the information in the master list and the corresponding data should all change automatically. Once the database is set up, and if the staff members could operate the new database well, it would save a lot of time and work. By easily keeping track of their clients and the records of their programs, they could work more productively to achieve their mission. If the database becomes available via a local area network, then the staff could share the data and perform the different tasks they need to perform without duplicating any data. Standard reports, labels, and queries that are common could be pre-programmed, making it easier to get the information needed to complete their work process.

B. Network Options

Problem. The other technology concern is the lack of a network within the organization. When a staff member wants to share files or send files to the other staff in the organization, they must connect to their private Internet account and email it to the other staff because they don't have the local area network yet. Each staff member has his or her own Internet access account that they are using at home and at work. This has worked fine in the past, but as the organization grows, it is becoming less cost-effective and productive.

Approach. However, the organization is in the process of having an outside consultant network the computers for file sharing. The student consultant and the Executive Director discussed options for faster network Internet connection (ISP, cable), as well as approximate advantages, cost-effectiveness of each. The Executive Director feels that ultimately DSL connection would be preferable from a productivity and cost standpoint as the organization grows, but there is no urgency now because the current situation is

adequate and probably less expensive. Mr. Ambrosino would pursue further cost information when he is ready to address this area.

C. Other Problems (that were not address in the consulting work)

Problem 1 – Reporting to the Statewide System. Another problem related to the database, is reporting to the statewide system. The Southwest PA AHEC needs to submit data to their statewide program office for mandatory reporting requirements of funders and for long-term tracking to evaluate effectiveness of programs. There are common forms used statewide; thus far, they have been collecting the paper forms completed by students and sending them through the mail to the state system, where the data is entered into the computer. The Executive Director would prefer to find a way to enter data locally and submit the report electronically to the state. This problem cannot be solved until the main database issues are addressed and until the state adopts a unified reporting system.

Problem 2 – Absence of On-Staff Technician. The staff, aside from the Executive Director, has limited technical knowledge. There is no technical consultant that works with AHEC currently. Not having an on-staff technician causes several problems such as inability to easily update or upgrade website, inability to develop and maintain a relational database to track the program and contacts. Executive Director would like to hire a staff member who would be responsible for all technology issues within the organization, but funding has been a deterrent. Thus far, Mr. Ambrosino has managed to take care of some technical problems, but does not have enough knowledge, or time, to take care of all the problems.

Consulting Focus

During the consulting session, we defined all the activities performed by the organization, types of contacts they maintained, and reporting and management requirements. In searching for the software that could satisfy the needs of the organization, it was decided that MS Access would be the best choice. It would be able to handle all the functions required by the organization's needs, and it is already installed on all the computers. Although none of the staff knows how to use MS Access yet, the time required to learn new software would be small in comparison to the time the staff currently spends producing duplicate documents. With MS Access, the tables could be linked so that when a change is made in the master list, all the corresponding information would be changed as well. The rationale for doing this is to reduce time, better use data, produce reports and statistics that will help them better interact with clients, meet funders' reporting requirements, and evaluate outcomes.

The organization needs to be able to use the database and maintain it. The Executive Director needs to know how the database works in order to design a system that meets the needs of the organization. Designing a comprehensive information system was outside the scope of this consulting process due to the limit of time. However, to expand the capacity of the Executive Director to design, implement and maintain a database, we decided to build a sample database using MS Access. Through this process, Mr. Ambrosino would begin to understand database design issues, how to build the data file structure, how to change that structure, how to enter data, and then how to query and report on the data. Having a comfortable level in using Access, the Executive Director would then be in a position to either work on developing the full information system himself or to work with consultants who could help design a complete database.

II. Outcomes and Recommendation

A. Information System - Database

Outcomes. The only experience Mr. Ambrosino had with MS Access was five years ago when he took a course at Carnegie Mellon. Since it had been so long, he did not remember how to build a database using MS Access. During the consulting process, we have created a sample database with one specific program called Schweitzer Fellows Program. Mr. Ambrosino refreshed his memory of MS Access by creating and testing the sample database. Now he feels comfortable understanding how to build the necessary tables and make relationships between the tables. We created the master list table together with the contact information of people who are related to the Schweitzer Fellows Program. Mr. Ambrosino practiced building tables by creating other tables with different groups of people. He also wrote the SQL code to query data reports. He is now able to produce different set of data reports using query function.

By understanding the basic functions of MS Access, Mr. Ambrosino was beginning to identify what could be done more with the database to improve their productivity. We have analyzed other needs of the organization and documented the situation description chart for the next step.

Mr. Ambrosino has attained a basic understanding of MS Access. He can teach other staff members in the future so that they become familiar with the software. By teaching other staff members, Mr. Ambrosino could keep practicing his knowledge of MS Access. Even if he hires a database specialist in the future to complete the database, the sustainability of his increased capacity is feasible. Because he has fundamental knowledge of the database structure, he will be able to understand what the specialist is doing and direct the specialist to complete the organization's needs. The situation description chart that we documented during the consulting process will help the database specialist to understand the mission and needs of the organization better.

The consulting session has enabled Mr. Ambrosino to see that to properly set up a database that will accomplish his goals, it will require much greater time and expertise than is currently available to the organization. He feels that AHEC would need to either hire a technical staff person or seek outside database expertise. The ultimate goal would be to have that database consultant create an underlying database with user-friendly forms that would be easily used and maintained by staff not proficient in database design and maintenance.

Recommendation. For the complete database, Mr. Ambrosino needs to make sure that the database is designed well to eliminate duplication and ensure data integrity. For this reason, he will need to consult with expert database resources. Cost is a factor, so the recommendation is to find the IS project courses at local universities and be part of the project team. Mr. Ambrosino could ask the instructor to include his organization for the student's project and continue working with a student who has the database background. The Executive Director could also hire an IS student who has a database background. There are some companies that offer a private training in Access use for the non-profit organizations. Mr. Ambrosino could get trained more with those programs and maintain the database. Also, there are several local Access user groups that could give advices to the Executive Director.

Resource 1. There is a project course offered at University of Pittsburgh by the professor, Brian Butler. The Executive Director could contact the professor for more information. The professor's email address is bbutler@katz.business.pitt.edu. This course is offered next spring 2002 semester. Here are the course information and description.

University of Pittsburgh - Katz Graduate School of Business
BMIS 2589: Systems Analysis and Design - Spring 2001

This course focuses on the assessment, analysis and design of information systems. Working in teams, students will use computer-aided software engineering (CASE) tools to assess the needs of an organization and develop requirements and design documents for an information system. The objective of this course is to simultaneously develop planning, analysis and design skills and knowledge about strategies for applying those skills. Class discussion and exercises will focus on the challenges that developers face when designing and implementing systems in organizations. Specific design techniques covered include entity relationship modeling, data flow diagrams, process action diagrams, and user interface design procedures.

Resource 2. Another option is to hire the IS student from Carnegie Mellon University who was introduced to Mr. Ambrosino during the consulting process. Cary McCormick is a senior IS major student at Carnegie Mellon University who helped acquaint us with the basics of setting up relationships between tables in MS Access. Mr. Ambrosino mentioned that hiring Cary to finish the complete database setup could be a good way to continue the next step since Cary already knows the basic needs of the organization. Here is Cary's email address: Cary@cmu.edu.

Resource 3. Mr. Ambrosino could contact the CMU career center and find a student with database background who wants a work experience. If Mr. Ambrosino finds a student who has a work-study plan, he has to pay only 25% of the hourly payment. This would be much cheaper than hiring the professional database specialist and Mr. Ambrosino could get similar benefit from the IS student. The CMU career center is located at Warner Hall 19, Pittsburgh, PA 15213 and their phone number is (412) 268-2064.

Resource 4.

The company that offers the private training in Access for the non-profit organizations:

<http://www.alligatorcs.com/services.htm>

<http://trfn.clpgh.org/pacc/home.shtml?>

<http://www.pittsburgh-database.com/index.html>

<http://www.techso up.com/articles.cfm?topicid=8&topic=Consultants>

Resource 5.

The Local Access user groups:

<http://www.db2parug.org/index.html>

<http://www.sqlpass.org/usergroups/index.cfm>

<http://www.pssug.com/default.htm>

B. Network Options

Outcomes. For the network connection problem, the organization is in the process of having an outside consultant network the computers for file sharing. The student consultant and the Executive Director have discussed the advantages of taking the next step and networking the access to the internet, as well as possible alternative connections, and the cost-effectiveness of each. Options include DSL, cable, or maintaining individual ISP accounts. Mr. Ambrosino was put in touch with 3RiversConnect to see if they qualify for discounted DSL service. He will pursue information on this option and decide if he feels it would be beneficial at this time.

Recommendation. There are websites that contains information about the network options for the small organizations or non-profit organization.

Resources.

http://www.attsbh.com/affiliate/metrosbc/att_splash_3.html

<http://www.nptc.com/business.html>

http://www.pghconnect.com/main/web_hosting.asp

<http://www.web-tech.net/>

C. Other Outcome - Executive Director's Computer Use

Outcomes. The Executive Director was comfortable in using software such as MS Word, Excel, Outlook and Publisher. However, he did not have the deep understanding of how Windows works. For that reason, many times he used Windows inefficiently and created duplicates unintentionally.

During the consulting process, the student consultant was able to show the Executive Director several timesaving shortcuts in Windows navigation. Mr. Ambrosino also had several duplicate taskbar and desktop shortcuts that were slowing his machine down. Eliminating these shortcuts and running Windows utilities, such as disc clean up and disk defragment resulted in faster operation of his desktop.

Description of AHEC

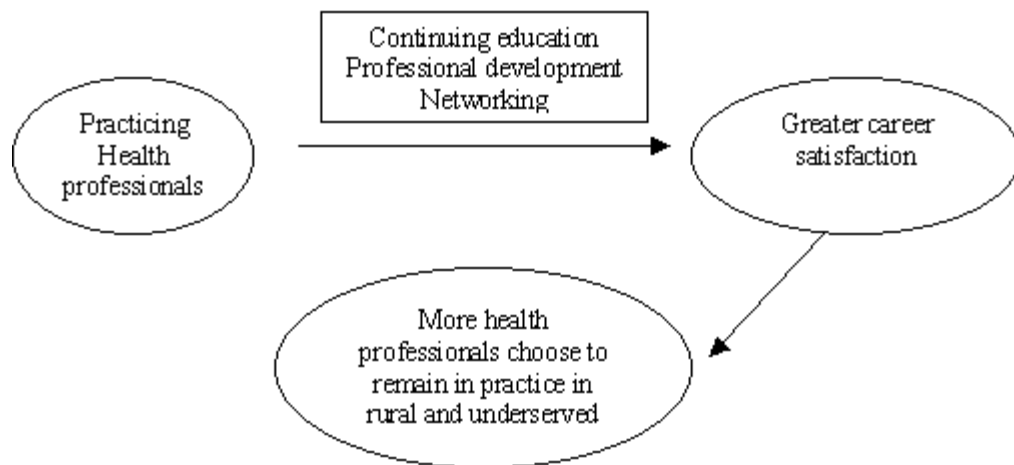
1) The Goal:

Bridging Academic and Community Resources
to Meet the Healthcare Needs of the Future

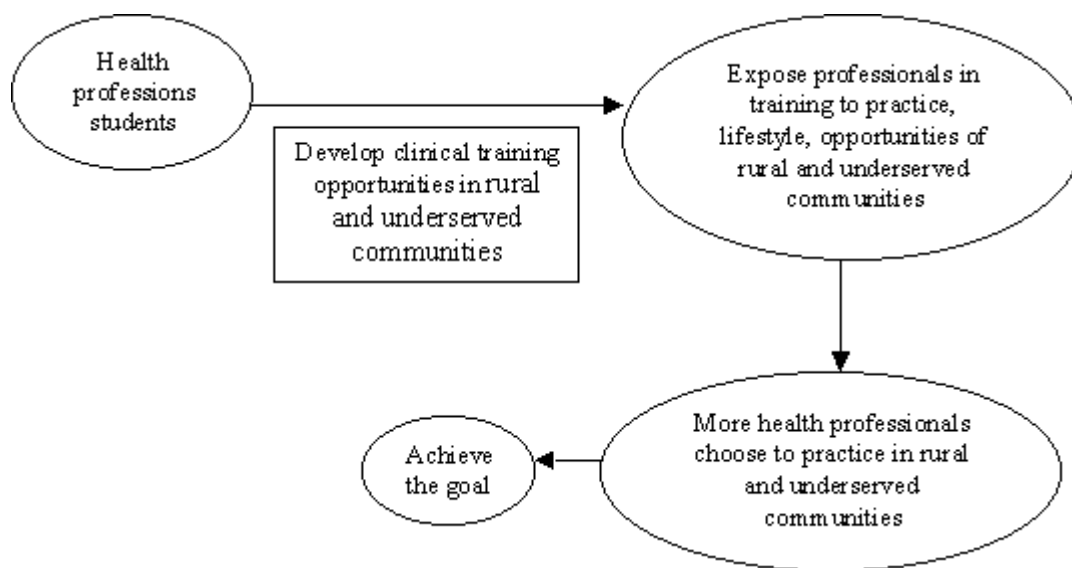
2) What they do:

Programs	Conferences	Student Rotations	Schweitzer Fellows
<ul style="list-style-type: none"> • Science Enrichment • Community Health Education • Health Promotions 	<ul style="list-style-type: none"> • Schweitzer Symposia • Faculty Development • Continuing Education 	<ul style="list-style-type: none"> • U-Pitt <ul style="list-style-type: none"> - Medical - Dental - Nursing - Public Health - Pharmacy • Chatham <ul style="list-style-type: none"> - Physician Assistant • Seton Hill <ul style="list-style-type: none"> - Physician Assistant • Carlow College <ul style="list-style-type: none"> - Nursing 	<ul style="list-style-type: none"> • Fellow (15-20 per year) • Community Site • Project • Site Mentor • Academic Mentor

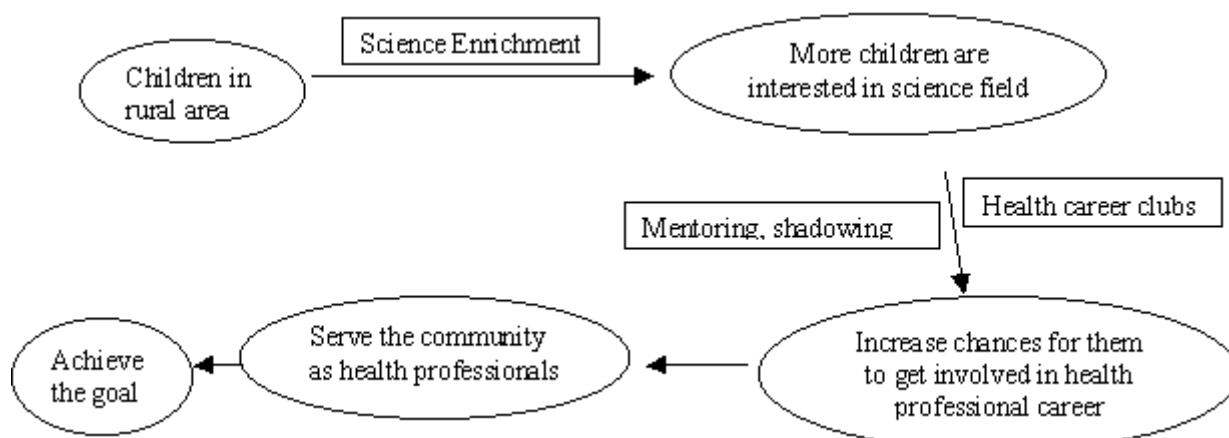
SHORT-TERM STRATEGY: Retention Of The Existing Workforce



MID-RANGE STRATEGY:



LONG-TERM STRATEGY: WORKFORCE DEVELOPMENT



Staff Computers and Printers Detail

OFFICE	MANUF.	TYPE	OS	MHZ	RAM	HD	MISC
Exec. Dir	Gateway	Pentium 3	W. ME	733	128 MB	15 GB	Ethernet Card installed. Using 56k modem (AOL)
Health Planner	Gateway	Pentium Pro	W. 95	166	32 MB	2 GB	No Ethernet Card yet. Using 56k modem (AOL)
Clinical Director	Gateway	Pentium Pro	W. 95	166	16 MB	2 GB	No Ethernet Card yet. Using 56k modem (Stargate)
Admin. Assist.	Gateway	Pentium 3	W. 2000	1,000	256 MB	40 GB	Ethernet Card installed. Using 56k modem (Stargate)
Intern	Gateway	Pentium Pro	W. 95	166	16 MB	2 GB	No Ethernet Card yet. No Internet Connection yet.

OFFICE	MANUFACTURE	MODEL	CONDITION	MISC
Exec. Dir	Hewlett Packard	Desk Jet 970	Fine	None
Health Planner	Hewlett Packard	Laser Jet 6P	Fine	None
Clinical Director	Hewlett Packard	Laser Jet 5P	Fine	None
Admin. Assist.	Hewlett Packard	Laser Jet 6P	Fine	None
(Fax Machine)	Hewlett Packard	Office Jet 300	Fine	None
Intern	Hewlett Packard	Laser Jet 6P	Fine	None