The Family Planning Manager

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MANAGEMENT STRATEGIES FOR IMPROVING FAMILY PLANNING SERVICES

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Supplement

A Primer for Accessing and Using Electronic Communications Technology

Using Electronic Communications in Family Planning

Editors' Note

Pick up any popular magazine or newsletter these days and you will probably find an article about some aspect of communications technology. Whether the article is about how to hook up to the World Wide Web, how to search and receive information electronically, or how to avoid telephone charges by using e-mail to communicate with friends and colleagues, these technologies have a strong presence. For family planning managers around the world, these new communications technologies offer exciting challenges and opportunities.

This double issue of *The Family Planning Manager* explores the impact of the rapidly developing field of electronic communications on the work of family planning managers—the way they plan and implement their programs, train and supervise their employees, and evaluate the results of their efforts. The first two sections of this issue look at the current state of electronic communications and the access that family planning managers throughout the world can expect to have to these emerging communications technologies. These sections examine how managers can use both electronic mail (e-mail) and the World Wide Web to communicate with each other and to gain access to key information. The third section looks at the way organizations can use these technologies internally to manage programs and deliver services more effectively.

A supplement to this issue, *A Primer for Accessing and Using Electronic Communications Technology*, provides family planning managers with practical information on the equipment and support that they will need in order to access and use these technologies in their organizations.

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The Family Planning Manager

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Using Electronic Communications to Enhance Your Program

The communications revolution and the new electronic technologies now available are influencing the way managers everywhere work and relate to their colleagues. These new communications channels will make it easy for you to access information and contact your colleagues, locally and internationally, and will create far reaching changes in the way you learn new information, train staff, work with your colleagues, and provide services to your clients.

The International Conference on Population and Development (ICPD) Programme of Action challenges managers to increase decentralization, expand community participation, integrate family planning and HIV/AIDS services, and link service delivery to social programs that support and develop the lives and livelihood of women. In order to meet these challenges, managers will need to make important changes in program strategies, organizational structures, and in the use of human, financial, and material resources. Having the ability to communicate electronically with many different people will provide new opportunities for managing these changes and improving program efficiency and effectiveness.

Electronic communications will facilitate the exchange of information between family planning professionals, giving you resources to more rapidly and more effectively manage change in your organizations. To help you improve the clinical quality, management, and performance of your programs, electronic communications will give you access to a wide range of knowledge and experience on specific issues in family planning and related disciplines such as medicine, management, marketing, demography, finance, epidemiology, and sociology. Finally, electronic communications technology will provide the foundation for the development of internal, organization-based information systems, which will help you and your staff communicate and manage your activities more effectively within your organizations. The box on the next page summarizes the ways in which electronic communications will affect the way you work and help you to improve your programs.

Many family planning professionals have already begun to make use of these new communications technologies. Even if you do not currently have access to them, understanding their potential impact will help you use them effectively as soon as they become available to you. This issue of *The Family Planning Manager* will discuss the impact of these new technologies on the work family planning managers do every day, as well as provide some concrete examples of how these technologies are currently being used by family planning professionals around the world.

This issue of *The Family Planning Manager* was written by James Wolff and Kimberly Austin, in collaboration with Greg Frick. James Wolff is the Director of Electronic Communications and New Products

for the FPMD project. Kimberly Austin is the Electronic Communications Specialist for FPMD, and Greg Frick is the Network and Communications Specialist for Management Sciences for Health.

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How Electronic Communications Technologies Will Help to Improve the Management of Family Planning Programs

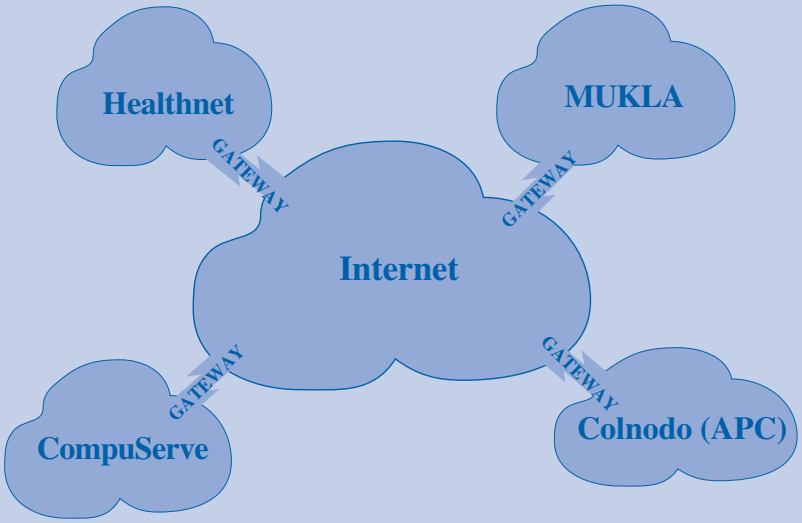
There are numerous ways in which new communications technologies will change the way we currently work. Following are a few ways that using electronic communications can help you to implement and manage your programs better. Using electronic communications will help to:

- Increase the flow and exchange of ideas and information for planning, coordinating, monitoring, evaluating, and making decisions about programs;
- Increase the kinds and frequency of contact among staff to identify and solve problems that can improve quality, make services more cost effective, and attract and retain users;
- Permit the development of internal organization-wide communication and information systems that will help to empower employees, enable them to use internal information resources more effectively, and improve the management of decentralized services;
- Establish mechanisms for providing technical consultations between people working at different locations such as program managers and clinical service providers;
- Allow managers to directly exchange management tools developed for planning, finance, training, supervision, and continuing education, and to learn from one another's experience;
- Offer less costly alternatives to traditional conferences, workshops, and seminars where people must travel in order to meet and share experience;
- Facilitate the establishment of on-going linkages with networks of experts for guidance on program policy, implementation, and training.

Understanding Electronic Communications Technology

The communications revolution is making it possible for people around the world to become part of an international communications network. This communications network, known as the Internet (the largest and most powerful computer network) was created by connecting many smaller computer networks together. Most connections to this network are made over telephone lines, although other communication channels like radio and satellite can also provide links to the network. By July 1996, this communications network had linked together computers in over 242 countries around the world. This extraordinary network of computers makes it possible for many health workers in remote and isolated areas to share their interests, exchange information and ideas, and regularly communicate with colleagues in their own country and even with people in other countries.

Connecting with Colleagues Around the World



[Adapted from *The Internet Companion.*]

The Internet: The Internet is a worldwide network of computer networks primarily using the Internet Protocol (IP). The Internet Protocol is the most important of the communications protocols on which the Internet is based. Internet protocols allow messages (information) to be sent through multiple networks in order for them to reach their final destinations.

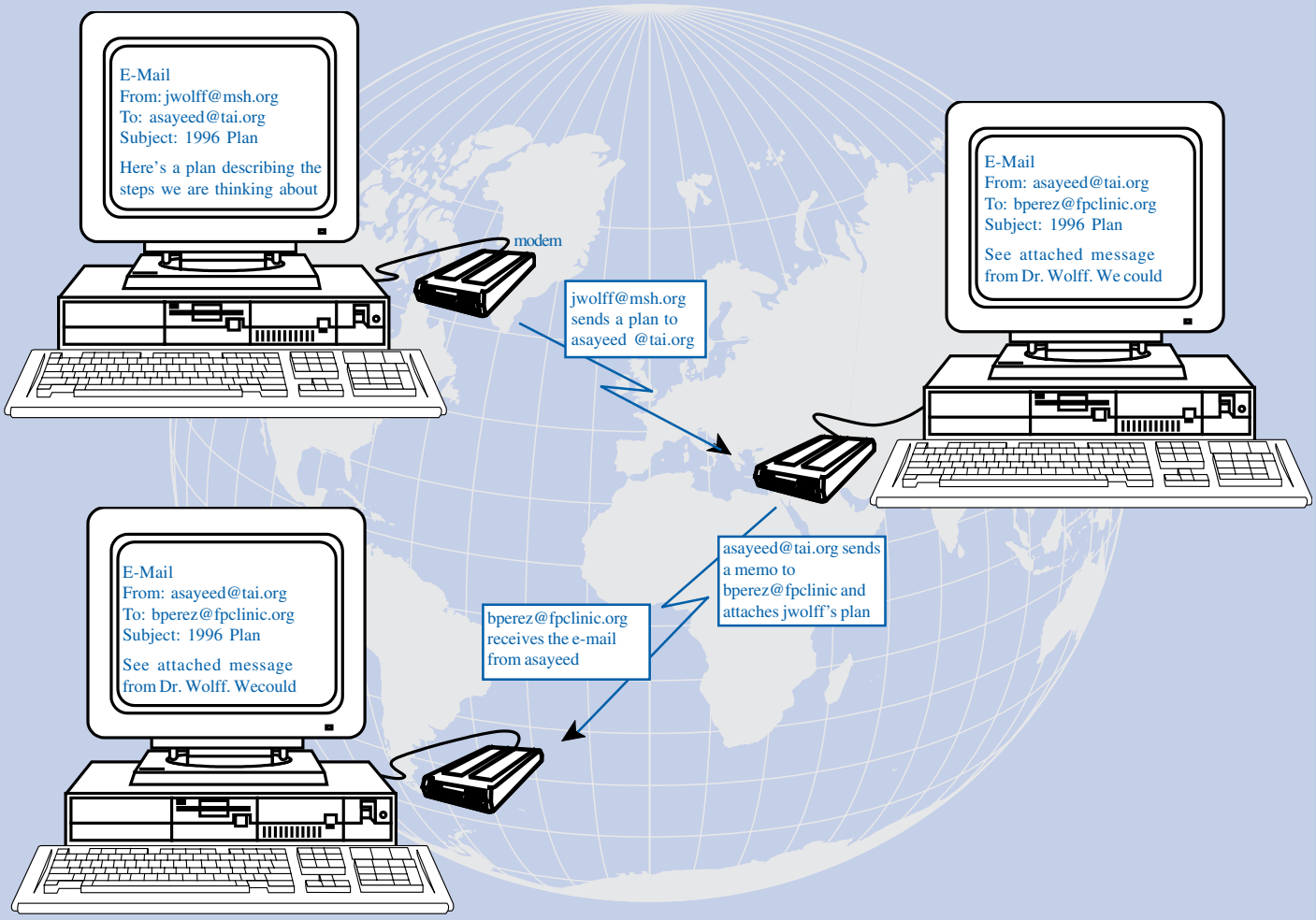
Other smaller networks: A number of worldwide networks use communications protocols different from those used by the Internet. These networks often provide their own specialized set of services and most of them are connected to the Internet through gateways (see definition below). Individual networks can range in size from having several thousand users to having fewer than a hundred. Examples of some networks commonly found in Africa, Asia, and Latin America include HealthNet, MUKLA, and the APC Networks (Association for Progressive Communications) as well as commercial networks such as CompuServe.

Gateways: Gateways connect smaller networks to the Internet. These gateways allow people on many different networks to communicate with each other by sending and receiving electronic messages through their gateways to the Internet.

People who have access to computers that are connected to this worldwide network can access and exchange information using a number of different communications tools. The communications tools available vary according to the type of connection you have to the Internet. Electronic mail (e-mail), which allows people to exchange messages electronically, is available in almost all networks. This issue focuses primarily on e-mail because it is the most universal and useful communications tool available in all parts of the world. Another communications tool featured in this issue is the World Wide Web (also known as "the Web" or WWW), the most powerful and dynamic Internet tool currently available. The World Wide Web provides many ways to exchange information and communicate with other colleagues working in reproductive health and family planning programs.

Essentials of E-mail Communication

The following illustration gives an example of how e-mail can be used to spread an idea or plan quickly. In this example, user *jwolff* at MSH in Boston sends a memo containing a plan to *asayeed* at TAI in Bangladesh. When user *asayeed* reads his mail from *jwolff*, he "forwards" the message to user *bperez* in Latin America because he knows she has been concerned about some of the issues addressed in *jwolff's* plan.



Computer: A machine used to process and manage information.

Modem: A device that connects a computer to a telephone line and permits the computer to transfer and receive data between different computers.

Telephone line: The most common vehicle for transferring data from computer to computer.

Electronic message (also known as e-mail): Information transmitted electronically from one computer user to another, or to a group of users. The message is addressed to the recipient using an electronic addressing system.

E-mail address: The address of the computer and the user where a message is to be sent.

Connecting to the Internet

There are two basic ways to connect to the Internet: through an **interactive Internet connection** or a **store-and-forward connection**. An interactive Internet connection permits users to communicate with each other in "real time." When you talk over the telephone you are making a real-time connection. Store-and-forward connections are more like the postal mail, although much quicker. Using a store-and-forward connection, you compose your message off-line (that is, on your own computer when it is not connected to your communications provider). When you are ready to send the message, you connect to your communications provider, and send your message to their computer. Your communications provider then takes care of sending your message to the address(es) that you specified in the message.

Types of Internet Connections

Interactive Internet connection. If you have an interactive Internet connection, your communications provider connects you to the Internet using the most advanced comunications technologies over normal or specialized telephone lines. This type of connection permits you to use many Internet tools for accessing information and communicating with others, often in "real-time". Some Internet tools discussed in this issue, like the Web and Gopher, require an interactive Internet connection. (The Web and Gopher are discussed later, on pages 18 and 19.)

Store-and-forward connection. Store-and-forward technology allows users to exchange e-mail using normal telephone lines. If you are using a store-and-forward system, you compose your messages and store them on your own computer until you are ready to connect to your communications provider. When you are ready to send your message you send it to its destination through your communications provider. Messages can be sent and received in as little as a few seconds or minutes, or it may take several hours depending the type of connections being used and the distance the message must travel. With a communications provider that utilizes store-and-forward technology and has a connection to the Internet, you can send messages to any computer in the world that has a connection to the Internet.

The simplest and cheapest connection currently available in most countries makes use of "store-and-forward" technology. Store-and-forward technology provides an e-mail connection but does not allow use of the other communications tools that require an interactive Internet connection. Many managers have chosen it because it is more reliable in areas where telephone lines are of poor quality or unreliable. In addition, store-and-forward technology can be used with many older types of computers.

Getting Connected: Who Has Access

To get a better sense of the extent to which our readers are connected to the Internet, the editors of *The Family Planning Manager* conducted a survey. The survey inquired about readers' current computer capabilities, their current access to and use of electronic information technologies, and their plans for use of these technologies.

The Family Planning Manager Computer Use Survey Results				
Region	**% with e-mail address**	**% with Web access**	**% with computer speed of 486mhz**	**% with high speed modem or above**
Asia	39	11	83	31
Africa	34	6	58	22
N. Africa & Middle East	46	18	86	48
Latin America & Caribbean	57	19	88	30
Europe	60	45	80	41
N. America	79	69	84	52
Other	44	20	88	0

* Survey results are based on 633 questionnaires returned from 104 countries. Data are grouped by region and are based on total respondents to each question. [August 1995]

The results of this survey confirm that computer and communications technologies are already in use in the health sectors of many countries. Along with these technologies come opportunities to improve and expand family planning services in a variety of new and innovative ways. As of mid-1995, over 5 million computers representing 40 million users around the world have access to the Internet. [Panos Institute]

Facilitating Person-to-Person Exchanges

E-mail is the most popular electronic communications tool. Using e-mail, users can send electronic messages to anyone connected to the Internet or other computer networks. E-mail can take the form of person-to-person exchanges or can be distributed to large groups of individuals around the world simultaneously.

E-mail was the first Internet tool and its compelling usefulness laid the foundation for the development and expansion of the Internet. Managers can use e-mail to get expert help from around the world and to build collaborative relationships with other family planning professionals.

Getting Expert Help

Person-to-person communication is possible between managers, service providers, and a broad range of experts who can provide personalized consultations by e-mail on a wide variety of topics. What is truly revolutionary about this technology is that communication can easily take place between people located virtually anywhere in the world. In fact, e-mail technology may actually make experts more accessible to managers who need advice or assistance. Currently, most experts depend on the "trickle down effect" of their expertise. They have to work through large organizations and other intermediaries who channel information and technical assistance to those in need of their expertise. E-mail,

however, gives managers *direct* access to a wide range of experts and allows people to communicate as often as needed. Following are some of the ways that having and using e-mail will help you in your work:

- **Clinical Information.** E-mail communications will give you easy access to advice on managing client complications with contraceptive methods, managing referrals for complications or long-acting contraceptives, and in addressing problems related to other areas of health, nutrition, and well-being. *For example, in the future, clinicians will be able to contact medical experts from within and outside their organizations to get help dealing with complex clinical problems. These experts will be able to expedite referrals and make key medical and administrative information available to you and your staff.*
- **Management Information.** With e-mail, you will be able to get management advice. *For example, you will be able to easily contact national and international nongovernmental organizations (NGOs) and other institutions to get specific guidance on how to initiate new program activities such as income generation, women's education, credit facilities, or alternative delivery systems.*
- **Policy Information.** E-mail will allow you to solicit and receive information relating to specific problems or policy issues. Too often information arrives when people do not have a specific need for the information or do not see clearly how the information can help them do their jobs. With e-mail, you will be able to take the initiative to request specific information *when you need it*, so that you get advice or guidance that is immediately useful to you. *For example, if you were trying to update your policy on prescribing contraceptives, you could check the latest recommendations on contraceptive viability by e-mail. Perhaps by contacting colleagues you found that the approved lifespan of IUDs had increased from four to eight years, which would not only help you develop an appropriate policy, but might also lead to cost savings and improved client satisfaction.*

Working Solutions—Viet Nam

Solving Problems Using E-mail

The e-mail exchanges on the next page illustrate how Jamie Uhrig, who works for a capacity-building project funded by the United Nations Development Program (UNDP) in Viet Nam, used an Internet mailing list to get information about condom usage figures in Thailand. (For more information on mailing lists, see "E-mail Discussion Groups" on page 11, and "How to Subscribe to a Mailing List" on page 13.) One of the project's activities involves mobilizing resources for Vietnamese condom programs. As part of this effort, Mr. Uhrig needed to estimate how many condoms would have to be used, presumably in commercial sex, to maintain Viet Nam's relatively low incidence of STDs and to prevent the spread of HIV/AIDS. So he decided to send a query about Thai condom use figures (Screen 1) to the SEA-AIDS mailing list, an electronic-mail discussion and information service aimed at bringing together people who are interested in HIV/AIDS concerns in Southeast Asia. Mr. Uhrig composed the message shown in Screen 1 on his own computer and sent it to the SEA-AIDS e-mail address; the message was then sent by SEA-AIDS to all of the list's subscribers.

As a result of Mr. Uhrig's initial e-mail, several subscribers responded, both directly to his e-mail address, and to the SEA-AIDS group list. A couple of respondents even faxed him graphs displaying increases in Thai usage. Not only did Mr. Uhrig receive valuable information from experts in the field, he also received answers to his question within 24 hours. "My question was quite capably answered...but the added value of getting all these responses was that I 'e-met' several people whom I had not previously been in touch with. I can always 'e-write' them anytime!"

Sample E-mail Messages

From: hanoi!unaids@netnam.org.vn@postbox.anu.edu.au
To: sea-aids-outgoing@biznet.inet.co.th
Date: Fri. 16 Feb 1996 16:14:26 +0700
Subject: Condom Use in Thailand

[I am currently involved in mobilizing and attaining resources for the Vietnamese condom program. Does anyone know true usage figures for condom use in the commercial sex trade in Thailand?]

At international HIV/AIDS conferences, I have heard total annual condom usage figures for Thailand of between 140 million and 170 million.

Recently a private manufacturer of condoms told me that the commercial market in Thailand is only 43 million, with an approximate extra 43 million distributed free through noncommercial sources. This totals just 86 million.

Can anyone help me out on this?

Jamie Uhrig UNAIDS
Hanoi, Vietnam

Mr. Uhrig's initial e-mail, sent to the SEA-AIDS mailing list.

From: <owner-sea-aids@bizet.inet.co.th>
To: sea-aids-outgoing@bizet.inet.co.th
Date: 2/17/96 2:14am
Subject: Re: Condom use in Thailand

No figures but two contact suggestions:

(a) [You should try contacting] Dr. Wiwat Rojanapithayakorn, Chief Medical Officer, Department of Communicable Disease Control, at the Ministry of Public Health in Bangkok. I would be surprised if he could not help you. Contacts are:

Work: (662) 591-8407/590-3007
Fax: (662) 591-8413

(b) You could also try Dr. Frits de Haan, ex-GPA who sits in the AIDS Division and is on e-mail: dehaan@health.moph.go.th

Good luck,
Nick

Two of the many responses Mr. Uhrig received to his inquiry. Both messages were sent to the mailing list so that all subscribers could also read the responses.

From: 307 FHI-THAILAND <FHI-THAILAND@fhi.org>
To: sea-aids-outgoing@biznet.inet.co.th
Date: 2/17/96
Subject: Re: Condom Use in Thailand

This is from T. Bennett in the AIDSCAP (AIDS Control and Prevention Project) Asia Regional office in Bangkok.

Several years back we studied the condom supply figures fairly thoroughly...the rough proportions in 1994 were about 120 million condoms manufactured by three domestic condom companies. About half (60 million) were bought by the Ministry of Health for the AIDS prevention and family planning programs. The other half were commercially distributed, primarily through drug stores.

There are easily enough condoms for all the commercial sex encounters but nowhere near enough condoms for all the sexual intercourse that takes place. It has been estimated that approximately 1.5 million acts of heterosexual intercourse occur daily in Thailand. Thus, condom supplies for HIV prevention are directed toward commercial sex encounters and casual non-marital sex.

No one has come up with a practical strategy for low-income housewives who feel at risk from their husbands but cannot deny them sex. However, no program I know of (in Asia or elsewhere) is taking this step to help vulnerable women protect themselves when no other realistic option exists.

Collaborating Across Regions

Person-to-person exchanges can result in sharing ideas and experiences across sectors, institutions, and continents. This type of exchange can reduce costs and decrease the time involved in developing and initiating new program and service delivery strategies. In family planning programs, managers can no longer afford to operate in isolation of one another.

Until recently, learning from colleagues in other countries has usually required holding expensive conferences and study tours. This type of information exchange is limited by the number of people who can attend and the specific topics planned and discussed in the meeting. Using e-mail, any manager can communicate on a wide variety of topics with any other manager who has access to e-mail.

Communicating Via E-mail

E-mail addresses are rapidly becoming as common as telephone numbers or postal mailing addresses. The increasing popularity of e-mail is a result of its advantages over traditional forms of communication. With e-mail you can:

- Get rapid responses to your questions;
- Send messages to one or more persons simultaneously;
- Communicate relatively inexpensively;
- Exchange messages when it is convenient without regard to different time zones;
- Communicate directly with individuals, allowing relations to develop more rapidly, and letting people share information more freely;
- Save the time and resources involved in printing and postal mailing;
- Store data on your computer for future reference or use.

The public, NGO, and private sectors are now developing and supporting strategic operational and learning partnerships among family planning program managers in many different countries. There are numerous efforts underway to facilitate exchanges between family planning professionals and help them find others with similar interests. On the back cover of this issue you will find an example of a tool that is currently under development that would allow you to register your name on a database and use the database to find a colleague by through a search and retrieval function on e-mail and the Web. From this and other types of initiatives, a new category of experts—your peers—will develop, which will allow people from different parts of the world to collaborate and comment on program design, implementation, and evaluation.

Creating Communities with Common Interests

Electronic communications technologies allow you to join electronic discussion groups that regularly hold e-mail discussions on topics of interest to you. These groups can be public (open to anyone who wishes to join) or set up to include a specific group of people. There is no limit to the number of persons who can join the groups or the locations from which they can join, unless the members of the group decide to limit the group to a few specific individuals. The groups can continue as long as needed, disband, or reconstitute themselves whenever a need for discussion arises. Family planning managers will find that these types of discussion groups, organized around critical management issues, will have a major impact on program innovation and success.

E-mail Discussion Groups

E-mail discussion groups (also called electronic conferences) can take a variety of forms. Mailing lists and newsgroups are two common ways in which individuals can participate in discussions.

A **mailing list** is an automated electronic mailing system that transmits e-mail messages sent from one user to a specified group of users. Mailing lists are usually organized around specific topics. Users of the mailing list are known as **subscribers** to the list. Subscribers are individuals who have sent an e-mail to the list address asking to be included in the discussion group. Subscribers to a mailing list can participate in different ways. Some simply read the messages to keep informed about the topic, others actively participate in discussion. (In addition to being used for discussion groups, mailing list technology is used for information dissemination. See "Keeping up to Date with an E-mail Newsletter" on page 15.)

Every mailing list has an **owner** who is responsible for setting up and maintaining the list. Some mailing lists have **moderators** who help to facilitate discussion by editing and organizing e-mail messages sent to the list. Others are unmoderated which means that messages are sent directly to all the subscribers to the list. (See the section "How to Subscribe to a Mailing List" on page 13.)

A second common way to participate in an e-mail discussion is through a **newsgroup**. Newsgroups work in much the same way as traditional bulletin boards. They provide a place where individuals can post messages and other people can read all of the posted messages. To use a newsgroup, users send e-mail messages to a specific computer on the Internet. Other Internet users, using special software called a **newsreader**, can connect to the computer and read the mail that is stored there. This permits many people with similar interests to exchange ideas about specific subjects. Unlike mailing lists, in which users who subscribe automatically receive all e-mail messages sent to the group, with a newsgroup you choose when to read the messages stored on the newsgroup computer (also called a news server).

Developing strategic plans. As you strive to improve the quality of your services, expand access and coverage, and increase demand for your program's services, you will need to discuss how to best reach your strategic goals. One of the major barriers to strategic planning is the difficulty in bringing staff and expert consultants together, especially if they are geographically dispersed. An electronic discussion group can facilitate this process by making it possible for all key staff and consultant experts to participate in the development of the strategic plan. E-mail discussion for developing strategic plans will make it possible to:

- Provide comprehensive information necessary to develop strategic plans by permitting consultation with a greater number of experts;
- Facilitate examination of the consequences of decisions, often more effectively than in real meetings because the discussion is not restricted to a limited number of meetings;
- Develop a common understanding and commitment to new strategies and objectives that are critical to the success of any new strategic initiative;
- Make on-site meetings more effective by developing agenda items in advance through electronic discussion.

Improving and expanding policies. Implementing the ICPD Programme of Action is a challenge that all national health and family planning managers and policy makers are currently facing. To effectively address many of the issues that may arise in the policy development process, you may need to seek the advice of sociologists, anthropologists, legal experts, economists, and others before deciding what policies will be most effective, what approaches to take, and how to implement these approaches. Participating in e-mail discussion groups can help you to readily communicate with experts from different disciplines.

Working Solutions—Philippines

Global Collaboration Over the Internet

When Dr. Evelyn Grace Gacad, AIDS Program Manager and Vice-President of the AIDS Society of the Philippines, learned about the existence of the SEA-AIDS mailing list, she immediately subscribed and has since reaped enormous benefits from this new communication mechanism. Here are some of the ways Dr. Gacad uses this specialized electronic mailing list.

Conducting Research

"Early last year, when we wanted to know existing policies on the prevention and control of the spread of HIV by persons with HIV/AIDS, we had to write several agencies in other countries and, sad to say, we did not get any response. I sent two queries to the SEA-AIDS mailing list in February and March this year and I have received amazing responses.

"Every year on the 3rd Sunday in May, several countries including the Philippines commemorate persons who have died of AIDS by participating in the International Candlelight Memorial. In the Philippines, the Department of Health conducts this activity together with the AIDS NGO network. This year, the NGO network inquired about the background of the event and its link with an international organization. I thought there should be an international organization spearheading this activity but since we did not have detailed information about the organization, I decided to inquire from SEA-AIDS. A representative of the International AIDS Candlelight Memorial and Mobilization based in San Francisco USA responded and sent us their materials."

Planning Conferences

During the planning process for the 4th International Conference on AIDS in Asia and the Pacific scheduled to take place in the Philippines in 1997, the conference organizers needed to come up with a theme for the conference. Dr. Gacad reported, "I decided to solicit input from members of SEA-AIDS and I received a number of responses most of which are very relevant. We are going to utilize all these materials I have with me now for the preparations of the International Conference."

Generating Discussion

"An important aspect of e-mail exchange is the discussions generated by the subscribers. A very simple query like a suggestion on the theme for a conference can generate varied responses depending on the background of the person. Discussing policy issues or intervention activities can bring together researchers, academicians, NGO personnel, government officials, and people with HIV/AIDS, to work together to shape the response to HIV/AIDS. I believe that the e-mail information support services provided by SEA-AIDS provide users with an effective tool for connecting people. As a Program Manager, I am very busy with a lot of things...but, I find time to check my mail every morning or late afternoon."

[**Note:** The SEA-AIDS mailing list is managed by the United Nations Southeast Asia HIV/AIDS Project in Thailand.]

Increasing knowledge and improving performance. Managers can organize e-mail discussion groups around specific topics such as sustainability, cost recovery, decentralization, and integration of family planning and HIV/AIDS. The organizations sponsoring these discussion will be responsible for setting the agenda, disseminating information, inviting international experts and keeping discussions focused and practical. In the very near future, family planning managers will be able to participate in discussions on clinical methods, training, program design, management, or information, education, and communication (IEC) initiatives.

How to . . .

Subscribe to a Mailing List

REPRO-HLTH-L, an electronic mailing list sponsored and managed by the United States Agency for International Development (USAID), is designed to facilitate discussion of reproductive health issues. Topics discussed through this list include family planning, STDs/HIV/AIDS, breastfeeding, safe pregnancy, adolescents, female genital mutilation, nutrition, and service delivery strategies. The REPRO-HLTH-L forum allows participants to engage in frank discussion of the issues, technical challenges, and lessons learned in reproductive health. Participants are encouraged to discuss and disseminate information relevant to reproductive health topics and to share items such as bibliographic citations, book reviews, meeting announcements, and new research findings. Information exchanged on the list is also archived and made available for later use.

To subscribe to the REPRO-HLTH-L mailing list, send an e-mail to: "listproc@info.usaid.gov" (This is the address of the computer on which the mailing list resides.) Leave the subject line of the e-mail message blank, and in the body of the message, type:

"subscribe REPRO-HLTH-L [Your first name Your last name]"

For example: *subscribe REPRO-HLTH-L Maria Gomez*

Once your e-mail reaches the mailing list's computer, it will automatically add you to the list of subscribers. You will then be able to send your own messages to the list and begin to receive e-mail messages that other subscribers send to the mailing list. If you decide that the content of the mailing list is not really of interest to you, you can take your name off (unsubscribe) at any time.

To unsubscribe from this list, send an e-mail to: "listproc@info.usaid.gov"
Leave the subject line of the e-mail message blank, and in the body of the message, type:

"unsubscribe REPRO-HLTH-L [Your first name Your last name]"

For example: *unsubscribe REPRO-HLTH-L Maria Gomez*

When your message is received, your name and e-mail address will be removed from the list and you will no longer receive messages from the REPRO-HLTH-L list.

Accessing Information

Managers and service providers need regular and reliable technical, management, and demographic information. Most technical information comes through subscriptions to journals, textbooks, or materials from specialized workshops and seminars. Until now, textbook and specialized management publications, which are often in short supply, were the source of much of the management information available to family planning professionals. Demographic information is available through governments and specialized research organizations. However, most managers often struggle with incomplete or out of date information because subscriptions are expensive, journals can get lost in the mail, training requires participant travel, and consultants' reports often are not widely distributed.

Electronic communications technologies can help overcome some of these barriers. Using e-mail and other Internet information tools, managers can obtain updates, reports, and publications in electronic format from an increasing number of organizations around the world. In addition, this electronic format allows managers to easily adapt or summarize the information for their own use.

Many features of the new communications technologies have been developed to organize information so that users can better understand and use the information. Increasingly, managers can gain access to specialized databases (such as POPLINE) and to library databases at large universities and medical schools which contain vast amounts of information about family planning and reproductive health. However, these services sometimes require having an account with the organization and/or paying a fee for access. (For more information on POPLINE, see "Accessing Information Sources" on page 25.)

For most people, the easiest and cheapest tool for accessing information will be e-mail. New developments in e-mail technology are making it possible for e-mail users to search computers on the Internet for the information they need. In addition, many organizations provide useful information in the form of e-mail newsletters that are distributed via mailing list technology.

Using the World Wide Web

The World Wide Web is the most powerful information tool currently available. Managers who don't have access to the Web can use electronic mail to get much of the information available on the Internet, although with a little bit more work. (See also "But I Only Have E-mail" on page 17.)

If you do have access to the Web, you can search for information by keywords and topics, view this information on your computer screen, and even print it out on your printer. You can also transfer document files and software programs to your own computers and then use, modify, or adapt these files. The Web also allows you to provide feedback directly to the organizations providing the information, and, in some instances, even contribute to the information source. Adding to the existing information base has the potential to improve the quality and usefulness of information, making it more valuable and relevant to other managers.

World Wide Web: The World Wide Web (WWW, or the Web) is an Internet tool used to distribute information. To use the Web you need a piece of software called a Web browser. Most Web browsers allow users to view text, graphics, and video and even hear sound depending on the type of computer you are using. Web browsers can connect to many different kinds of Internet information servers including FTP and Gopher sites. Users whose computer systems cannot support graphics can choose a text-only Web browser.

Documents on the Web, often called "Web pages" or "home pages," contain both plain text and colored or underlined text, called **hypertext**. When a user points to the hypertext and "selects" the text (either by "clicking" on the text using a mouse, or by depressing the "Enter" key) another document or another part of the current document is displayed on the screen.

Keeping up to Date with an E-Mail Newsletter

PHN*Flash*, an electronic newsletter published by The World Bank, uses the same type of mailing list technology used in e-mail discussion groups to periodically distribute information. The following is an example of one issue of PHN*Flash* sent to all their subscribers.

From: <PHNLINK@worldbank.org>
To: Multiple recipients of the list phnflash <phnflash...
Date: 4/6/96 10:37am
Subject: PHNFLASH ISSUE 112

PHNFLASH Issue 112, April 5, 1996
Electronic Newsletter on Population, Health, and Nutrition The World Bank, Human Development Department e-mail: phnlink@worldbank.org
WWW URL: http://www.worldbank.org/html/hcovp/hdd/contents.html

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In this issue ...

* World Bank Supports Safe Motherhood NON-GOVERNMENTAL in Uganda
* What's New in the PHNFLASH Archive?
* Vacancies - Global TB Programme, WHO, Geneva
* Peter Berman Book Signing - Washington, DC

++

World Bank Supports Safe Motherhood NON-GOVERNMENTAL in Uganda

In 1989, representatives from more than ten women's groups in Uganda pledged to improve the health of mothers in their country. With funds from the Uganda First Health Project, which is financed in part by a loan by the International Development Agency (IDA), they organized a national Safe Motherhood Electronic Conference. The aim of the electronic conference was to share information on the causes and dimensions of maternal mortality, and generate ideas and political commitment toward the goal of addressing this problem.

The women's groups then formed a new NON-GOVERNMENTAL The Safe Motherhood Initiative for Uganda that received further funding under the First Health Project, as well as from other donors, to develop specific safe motherhood interventions. The NON-GOVERNMENTAL focuses on addressing the underlying causes of poor maternal health, specifically lack of knowledge about the risks of pregnancy and childbirth, poor health practices in the community, and the low social and economic status of women. The Initiative's strategy is to educate and mobilize women and their families to prevent maternal health complications from developing and to act quickly when they arise. *(Due to space constraints, we were unable to print the full contents of this volume of PHNFLASH. The complete original article appeared in Population Network News, Volume 13, December 1995.)*

Note: In May1996, the World Bank expanded the scope of PHN*Flash* from population, health, and nutrition issues to include other human development issues such as education, reproductive health, and poverty; thus, PHN*Flash* has changed its name to HDD*Flash* (Human Development Department).

To subscribe to the HDD*Flash* mailing list, send an e-mail message to: listserv@tome.worldbank.org.

Leave the "subject line" of the e-mail message blank, and in the body of the message, type:

"subscribe hddflash [Your first name Your last name]"

For example: *subscribe hddflash Maria Gomez*

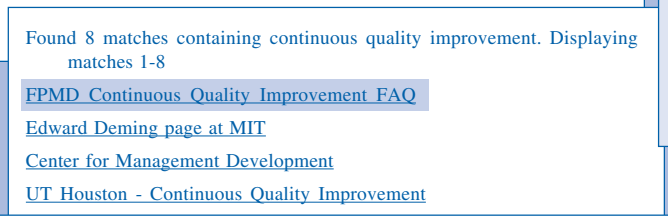
Using the World Wide Web to Improve Program Quality

The Web can put managers in touch with critical information for improving program management. *For example, a manager interested in exploring ways to improve program quality will find numerous information resources on the Web.*

This example illustrates how you can use a search engine to search the Web for information on continuous quality improvement. There are numerous sites on the Web that have Web search enginges which allow you to browse through lists of web sites for a specific resource. To access the popular search engine, "Yahoo," enter the URL (Uniform Resource Locator)—the web's equivalent to an e-mail address—into your web browser. Yahoo's URL is http://www.yahoo.com.

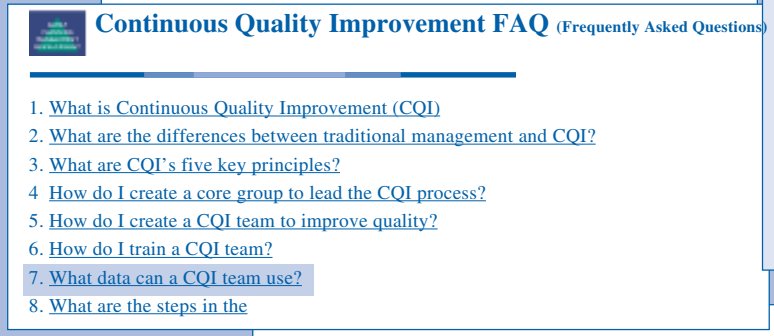
Screen 1

The Main Menu offers a selection of categories to browse, and a place to enter the text you want to search for. Clicking on the Search button after entering "continuous quality improvement" in the Search box results in the following screen, showing a list of sites that mention the phrase "continuous quality improvement."



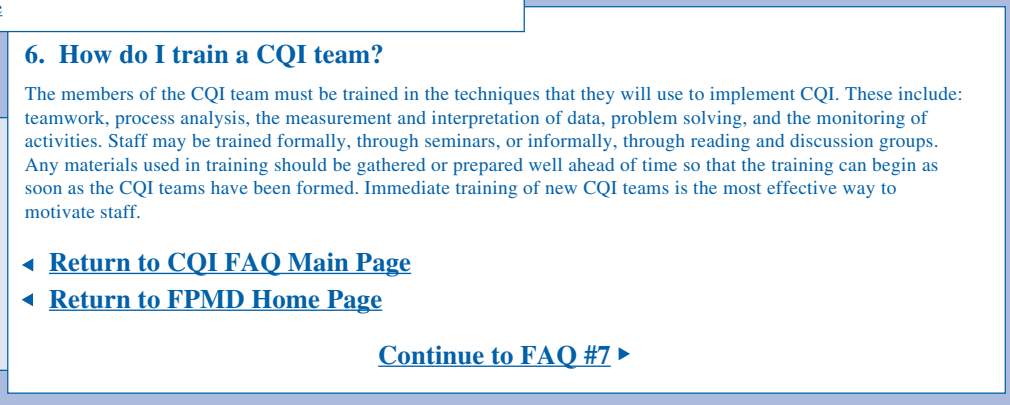
Screen 2

When the search engine has found sites that contain the phrase for which the user is searching, it displays a list of these sites. Clicking on the first site listed here, "FPMD Continuous Quality Improvement FAQ," brings the user to the Continuous Quality Improvement FAQ on the FPMD Web Site, shown in Screen 3.



Screen 3

The Main Menu of this Continuous Quality Improvement (CQI) FAQ on the FPMD Web Site consists of a list of "frequently asked questions" on the subject of continuous quality improvement. Pointing and clicking over Question #6, "How do I train a CQI team?", brings the user to Screen 4, which contains an answer to the question and explores some of the issues raised by the question.



Screen 4

The answer to question #6 is displayed. At this point, the user can choose to return to the FAQ main menu or can explore the main FPMD Web Site.

But I Only Have E-mail . . .

The Web provides users with powerful ways to search vast amounts of data, identify useful information, and easily download it to their computer for their own purpose. But much of the information available on the Web is also available over e-mail. Many computers connected to the Internet contain information about family planning and reproductive health. Some of these computers, called FTP (file transfer protocol) servers, have been set up to help users find and transfer documents and software to their own computers. Using e-mail, you can connect to an FTP server, search the information stored on it, and then request that the selected files be sent to you via e-mail. Of course, because most Internet tools are integrated into the Web, Web users can connect to FTP sites, interactively search the information contained on them, and download documents.

For example, you can obtain HIV/AIDS related documents from HIVNET's FTP site. HIVNET is an information resource, produced by the Global Electronic Network for AIDS (GENA), which provides daily feeds of discussion and data and access to many electronic HIV/AIDS newsletters, magazines and journals. In addition to maintaining a Web site (URL: http://www.hivnet.org), HIVNET maintains an FTP site that permits users to access documents via e-mail.

To obtain specific directions, via e-mail, on how to search and request documents of interest from the HIVNET FTP site, follow the instructions below:

Send an e-mail to: mail-server@hivnet.org

Leave the "subject line" blank and, in the body of the message, type: "send HELP"

If you would like to obtain more information on other ways to access resources on the Internet via e-mail, you can send an e-mail to the FTP site listed below to request a copy of *Accessing the Internet by E-Mail: Dr. Bob's Guide to Offline Internet Access* by Bob Rankin via e-mail (the document can also be accessed via the Web, URL: http://csbh.mhv.net/~bobrankin).

To obtain a copy of the document in English:

If you are living in US, Canada, or South America:

Send an e-mail message to: mail-server@rtfm.mit.edu

Leave the "subject line" blank and, in the body of the message, type:
"send usenet/news.answers/internet-services/access-via-email"

If you are living in Europe, Africa, or Asia:

Send an e-mail message to: mailbase@mailbase.ac.uk

Leave the "subject line" blank and, in the body of the message, type:
"send lis-iis e-access-inet.txt"

To obtain a copy of the document in French or Spanish

Send an e-mail message to: BobRankin@mhv.net

In the "subject line" of the message (leave the body of the message blank) type:
"send accmail.fr" (for French version)

"send accmail.sp" (for Spanish version)

Note: you will receive the document as two separate files which together are about 70,000 bytes in size.

(See page 10 of the accompanying supplement to learn how you can request an electronic copy of this issue of *The Family Planning Manager* from FPMD's FTP site.)

Finding Technical Information. An increasing amount of technical information is also available on the Web. *For example, you might wish to prepare a training session for your clinical staff to help them improve their ability to manage vaginal bleeding problems in Norplant users. You could find this information on JHPIEGO's Web site, which maintains clinical information for teachers and trainers of reproductive health service providers.*

Downloading Technical Material from JHPIEGO's ReproLine™ Web Site

ReproLine™ is an educational, nonprofit source of up-to-date information (brief synopses and presentation graphics) on selected reproductive health topics, including family planning. ReproLine is designed for use by policymakers with a technical and/or clinical background who are involved in making policy for service delivery systems. It is also designed for individuals, particularly teachers and trainers, with an interest in staying up to date on reproductive health information.

When using your Web browser, you can type in ReproLine's **URL** (Uniform Resource Locator), http://www.jhpiego.jhu.edu/ReproLine/repro.html. This is the Web's equivalent to an e-mail address which will connect you to ReproLine's Web site. Once you are there, you can view their information and transfer to your computer (download) any training materials that you find useful.

Screen 1

Welcome to ReproLine!

ReproLine™ is an educational nonprofit source of up-to-date information (brief synopses and presentation graphics) selected reproductive health topics, including family planning. ReproLine is designed for use by policy-makers with a technical and/or clinical background invloved in setting policy for service delivery systems. It is also designed for individuals, particularly teachers and trainers, with an interest in maintaining a current knowledge of selected reproductive health information.

About ReproLine
Reproline Topics
Reference Material
Presentation Grahics
Search ReproLine NEW

Screen 1
From the main ReproLine web page, the user can select Presentation Graphics.

Screen 2
The Presentation Graphics screen offers several presentation topics. Selecting the second option, "Norplant Implants: Management of Vaginal Bleeding Problems," brings the user to a screen (not shown) offering a choice of graphic file formats.

Screen 2

ReproLine Presentation Graphics

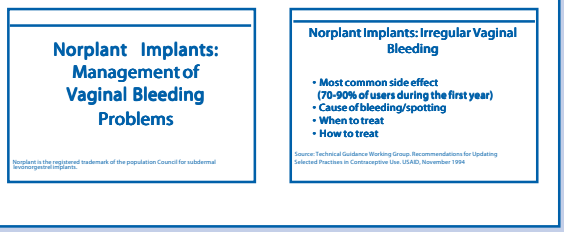
The ReproLine presentation graphics consist of files that can be downloaded and printed to produce color transparencies. If you are using a graphical browser, you can view thumbnail (miniature) versions of the graphics to help you locate the ones you want. An index of graphic titles is also available for each topic.

Topics

Maximizing Access and Quality
Norplant Implant Management of Vagina
Postabortion Care Services
Emergency Contraception

Screen 3
Once a format has been selected, in this example the Graphics Interchange Format (GIF), a screen showing a representation of the actual slide files is displayed. These files may be copied to the user's computer (downloaded) for printing.

Screen 3



Finding Demographic Information. Family planning managers depend on up-to-date and accurate demographic information to plan and implement their programs. The Web can provide managers with descriptive information on health and demographic characteristics, health indicators and trends, and the organization and management of the health care systems. This information is critical to policymakers, consultants, evaluation teams, and other interested individuals and organizations.

Obtaining Demographic Information

A large amount of information is stored on computers that are called **Gophers**. Gophers require an interactive Internet connection and are currently most easily accessible from the Web. Gopher systems can be accessed through either a text-based or graphical Web browser. Users connecting to a Gopher site will find a series of hierarchical menus of topic options. Selecting a particular menu item will bring users to another menu level in the hierarchy, or to a text-based document which users can then save as a file to their own computers. The following screens demonstrate how a user can connect to the USAID Gopher site by typing the Gopher address: gopher://gaia.info.usaid.gov into his web browser. The user can then search and download key information.

Screen 1

USAID Gopher

- Welcome!
- Agency Wide Overview
- Supporting Broad-Bases Economic Growth
- Stabilizing population Growth/Promoting Health
- Protecting the Environment
- Promoting Democracy
- Humanitarian Assistance and P
- Regional/Country Focus
- USAID Procurement and Busin
- Documents and Publications
- Getting Around Gopher Space
- Search the USAID Gopher

Screen 1: *The highest level of the Gopher hierarchy, provides the first level of options including an introduction to the USAID Gopher, an Agency overview, various types of policy and demographic information, and publications. Selecting the eighth Main Menu item, "Regional/Country Focus" brings the user to Screen 2.*

Screen 2

Gopher Menu

- Africa
- Asia and the near Ease
- Eastern Europe and the New Independent States
- Latin America and the Caribbean

Screen 2: *The "Regional/Country Focus" section, the second layer in the hierarchy, contains another menu of options for obtaining regional information. Selecting the fourth menu item, "Latin America and the Caribbean" brings the user to Screen 3.*

Screen 3

Gopher Menu

- Latin America and the Caribbean Regional
- Bolivia
- Brazil
- Chile
- Colombia
- Costa Rica
- Cuba
- Dominican Republic
- Ecuador
- El Salvador
- Guatemala
- Guyana

Screen 3: *The "Latin American and the Caribbean" section is on the third level of the Gopher hierarchy and consists of a menu of Latin American Countries. Selecting the eleventh item, "Guatemala" bring the user to Screen 4.*

Screen 4

Gopher Menu

- Congressional Presentation FY 96
- Guatemala Country Health Statistics Profile
- Guatemala PVO Profile

Screen 4: *The "Guatemala" section, the fourth level of the Gopher hierarchy, brings you to yet another menu with a choice of documents on Guatemala. Selecting the second item, "Guatemala Country Health Statistics" brings you to a screen that displays the specified document.*

Screen 5

I. A. Current Demographic and Health Indicators: GUATEMALA

FEBRUARY, 1995

DEMOGRAPHIC INDICATORS	VALUE	YEAR	SOURCE
Total Population	10,051,400	1993	UNP9200
Urban Population	4,093,600	1993	UNP9200
Women Ages 15-49	2,252,200	1993	UNP9200
Infant Mortality Rate	73	1985	DHS8904
Under 5 Mortality	110	1985	DHS8904
Maternal Mortality	248	1991	WHM9133
Life Expectancy At Birth	65	1993	UNP9200
Number Of Births	386,255	1993	UNP9200
Annual Infant Deaths	28,351	1993	CALXX01
Total Fertility Rate	5.6	1987	DHS8904
CHILD SURVIVAL INDICATORS	VALUE	YEAR	SOURCE
BCG	69	1993	WHE9403
DPT 3	76	1993	WHE9403
Measles	68	1993	WHE9403
Polio 3	77	1993	WHE9403
Tetanus 2	33	1992	WHE9301
DPT Drop Out	51	1987	DHS8904
ORS Access Rate	40	1991	WHD9201
ORT Use Rate	19	1991	QUE9101
Modern Methods (15-44)	19	1987	DHS8904
All Methods (15-44)	23	1987	DHS8904

Screen 5: *The document selected, "Guatemala Country Health Statistics Profile," is then displayed and can be read on screen, saved as an electronic file on your own computer, or printed out. Screen 5 displays the section of the document which contains figures for Guatemals's demographic and health indicators for the years 1987 through 1993.*

Expanding Training Opportunities. The Web can be used to build electronic linkages between you, your staff, and experts. It is also a vehicle for conducting formal education sessions that can lead to certification or degrees. This process is called "distance learning."

Continuing education using electronic media can provide you with a link to accredited educational institutions, such as universities, medical schools, and nursing schools around the world. Participants who take distance learning courses can earn official credit and receive certification. As the opportunities for distance learning increase, greater numbers of people will be able to enroll in advanced degree or certification programs. The electronic courses these students take include person-to-person exchanges between faculty and students, on-line consultation on special projects, and access to information from databases and libraries around the world.

Working Solutions—Zimbabwe

Using E-mail in the "Public Health Without Walls" Program

E-mail has been used in Zimbabwe to link students working in the field with their professors in the "Public Health Without Walls" Master's Degree program of the University of Zimbabwe. This innovative, two-year program, sponsored by the Rockefeller Foundation, arose out of a concern that many public health programs were becoming too academic and were not exposing students to what actually takes place in the field. In an effort to provide them with more "reality-based" training, the program requires students to do their studies on-site at various health centers throughout the country.

E-mail services, provided through HealthNet Zimbabwe, afford students the opportunity to work at rural field sites yet remain in constant contact with their advisors and program counselors at the University. Students are also able to take advantage of certain University resources. *For example, students can request or reserve materials from the University's Medical Library via e-mail.*

Building an Internal Communications Infrastructure

The first two parts of this issue focused on how individuals can use e-mail and the World Wide Web to communicate with one another and gain access to information. This third section explores how health and family planning organizations, national ministries, and non-governmental organizations can use these same technologies to improve organizational effectiveness and become more sustainable. It discusses the benefits of micro-networks, what you need to set up a micro-network, and how they can be used to help you manage your programs better.

Empowering employees, using internal information resources more effectively, and improving the management of decentralized services are key organizational objectives for success. Private communications networks, often referred to as micro-networks, link computers in different locations within an organization. In the health sectors around the world, organizations are already developing and using micro-networks. *For example, CARE-Peru's central office in Lima is already linked via e-mail to its twelve other project offices throughout the country. Recently, consultants from the World Bank proposed a Ministry of Health micro-network be established in Senegal which would connect the Ministry in Dakar with all of the regional and district offices via the national phone company.*

Micro-networks can utilize the most basic tools, such as e-mail, or the more advanced Web-related technologies. They allow organizations to make information readily available to staff in a variety of formats, permitting staff to communicate with one another by e-mail and to access internal databases and other organization-wide information, regardless of geographic location.

Linking District Hospitals Together

HealthNet Zimbabwe provides an e-mail connection between seven district hospitals in the Midlands Province and the Provincial Medical Director's Office (PMO) that has allowed the province to significantly increase its capability to monitor its programs and supervise staff. Health workers at each of the district hospitals enter their regional data into an epidemiology software program and then send it to the PMO as an "attached file" along with an e-mail message. The PMO analyzes the data and reports his findings to all staff in the province via e-mail.

Improving Staff Communication

Misunderstandings and misinformation often result in poor use of resources, low productivity, and conflicts, all of which affect program performance. Improving the quality and frequency of communication between different parts of the service delivery system can help to prevent these problems and resolve them more quickly if they do occur. In most organizations, supervision occurs periodically and depends on face-to-face meetings and, in the case of CBD programs, visits to clinics and communities.

When service delivery points are widely dispersed, supervisory costs are often high and visits are sometimes rushed or superficial. Using e-mail within a micro-network can help overcome these constraints because it provides supervisors with the ability to increase the frequency of contact with staff without expensive travel. This improved communication can help supervisors identify problems before they become too difficult to solve and to quickly identify staff and/or health centers that need special support.

Using E-mail to Communicate with Field Staff: A Vignette

Several years ago Mrs. Sangre, a provincial supervisor, introduced team supervision at the clinics she supervised in an effort to give more problem-solving and decision-making responsibility to the clinic staff. (See the Case Scenario from Volume II, Number 5 of *The Family Planning Manager,* "Mr. Traore Introduces Team Supervision.") As a result of this change, clinic staff became actively engaged in problem-solving on their own and were motivated by their new responsibilities. They did, however, identify some obstacles to effective problem-solving. First, they often needed help from Mrs. Sangre on technical and administrative matters but she was generally inaccessible except during her three visits a year. Consequently, the staff found it difficult to resolve some key problems between visits.

Recently, a solution to some of their problems became evident when one of her clinics, the Mirabel Clinic, was asked to participate in a pilot project to test the impact of e-mail on clinic performance. Connecting the clinic computer to the provincial office computer via a modem and telephone was all it took to put the supervisory team at Mirabel in touch with Mrs. Sangre on a regular basis. Using e-mail, clinic staff can now easily contact Mrs. Sangre to discuss difficult issues and get her advice when they need it. Following is an example of the type of communication using e-mail that now occurs between Mrs. Sangre and the supervisory team at the Mirabel Clinic.

continued on next page

Using E-mail to Communicate with Field Staff: Sample Messages

Message 1

From: mirabel@igc.apc.org
To: nsangre@healthnet.org
Date: March 6, 1996 21:50
Subject: Change in Clinic Filing System for Family Planning Clients

Dear Mrs. Sangre,

Please review our planned changes in procedure for filing information on new clients.

We propose two filing boxes. The first is called the "Year" box, the second, the "Month" box. In the Year box we will file all clients who are using oral contraceptives according to the month they are scheduled to return for resupply of pills or follow-up consultation. At the beginning of each month we will move the records of clients scheduled to be seen in the clinic into the Month box. There, they will be filed according to the day that they are scheduled to be seen. After a client has been seen and given another appointment, her record will be returned to the Year box under the month of her next appointment. This way the records for clients who do not return are left in the Month box and can be systematically followed up to determine if continued services can be provided.

Message 2

From: nsangre@healthnet.org
To: mirabel@igc.apc.org
Date: March 9, 1996 11:50

Subject: Change in Clinic Filing System for Family Planning Clients-Reply

This seems like a good system. To give me a better picture, can you describe how the system will work for a new client?

Message 3

From: mirabel@igc.apc.org
To: nsangre@healthnet.org
Date: March 10, 1996 15:23
Subject: Change in Clinic Filing System for Family Planning Clients-Reply-Reply

1. Client arrives. She is married, with two children in school.

2. Because she is a new client, a new family planning record is established. The number of the record is also written on the client's own record.

3. Staff performs a history and physical exam. Following discussion, the client selects an oral contraceptive and is given her monthly supply of pills.

4. The date of the next visit is written on the clients record.

5. The nurse then files the client record in the Year Box under the month that the client is scheduled to return for resupply or consultation.

7. When this month arrives her record will be transferred to the Month Box under the date of her appointment.

Message 4

From: nsangre@healthnet.org
To: mirabel@igc.apc.org
Date: March 11, 1996 16:47
Subject: Change in Clinic Filing System for Family Planning Clients -Reply-Reply-Reply

Yes. But I'm still not sure what you do with the file if the client doesn't show up on the day she is scheduled.

Message 5

From: mirabel@igc.apc.org
To: nsangre@healthnet.org
Date: March 12, 1996 16:50
Subject: Change in Clinic Filing System for Family Planning Clients - Reply-Reply-Reply-Reply

We just move the record to the next day. At the end of the month we have a box full of all the clients who discontinued. These are the ones who we will actively follow up.

Message 6

From: nsangre@healthnet.org
To: mirabel@igc.apc.org
Date: March 12, 1996 23:07
Subject: Change in Clinic Filing System for Family Planning Clients - Reply-Reply-Reply-Reply-Reply

Excellent system. I'm looking forward to seeing your plans for locating and following up these clients. Do you think you will have adequate staff? Time? I look forward to hearing from you.

[Note: The filing system described in this series of e-mail exchanges was developed by Dr. Alami in the Province of Fes, Morocco.]

The Benefits of Creating a Micro-Network

Micro-networks will help an organization integrate powerful communications technology into existing management procedures and processes. Building this type of communications infrastructure within an organization holds great potential to improve organizational management by:

- Speeding up the transfer of information within the organization;
- Increasing communication between staff members at different sites;
- Reducing the cost of information dissemination by reducing costs of printing, copying, and shipping organizational information;
- Expanding the knowledge base of workers by providing an accessible electronic archive of key technical and program documents;
- Improving human resource management and supervision through increased communication;
- Facilitating the exchange of programmatic information among staff at different levels and different sites that can be used to improve decentralized program management;
- Creating the opportunity for clinical consultations and the dissemination of critical clinical information;
- Keeping staff members up to date on training opportunities and organizational events.

Making Organizational Information Accessible to Staff

Micro-networks make use of Internet technology and other communications technologies and allow staff to have greater access to important organizational information. *For example, organizations often use Web technology to make personnel and organizational policies easily accessible to all staff. They can have easy access to the information when they need it.*

Micro-networks also help to make programmatic information available to staff working at multiple and/or distant sites. Using some of the more advanced micro-network technology, such as the Web, staff can enter and retrieve data from an information database maintained at a remote site. *For example, staff working in a clinic in Diyarbakir, Turkey could transmit financial information from their computerized financial management system to a database located at the central office in Ankara. A manager at the central office or at another clinic would then be able to access this information. In this way, decentralized programs can build and maintain databases of programmatic information from distant sites and make this information continuously available to all clinics on the network. This kind of information sharing among individuals and organizations can promote performance comparisons, provide incentives for managers, and help create performance-based programs.*

It is also important to remember that micro-networks are scalable. They can start small and grow, adding new sites as the organization expands the use of the technology. Using communication technologies to create an organizational micro-network will increase the flow and value of information within an organization. Finally, micro-networks often provide the added value of raising staff morale by giving them a sense of community within the organization, especially when offices are geographically scattered. This increased communication can help to significantly improve the quality and effectiveness of your program.

Working Solutions—Burkina Faso

Developing a Micro-Network

In building a micro-network, the first steps are to assess your organization's communications infrastructure, decide where this technology will be located, and who will be responsible for maintaining it. The next step is to identify and develop applications that are both useful and likely to succeed. For example, if your organization is having difficulty getting information from field offices, the first application of the micro-network might be to incorporate electronic communications into your organization's data collection process. A technical consultant working at an NGO in Burkina Faso recently outlined some of the critical issues managers will have to consider when establishing a micro-network.

- Obtain all the necessary equipment: computers, modems, and phone lines and budget for their recurrent costs (see box "How to Estimate the Cost of Your Internet Connection" on page 5 of the accompanying supplement, *A Primer for Accessing and Using Electronic Communications Technology);*
- Involve and educate key managers in the development and use of the micro-network;
- Recruit, train, and support a systems operator to maintain the system and to solve any technical problems that arise;
- Provide adequate training and ongoing support to users of the system.

Meeting the Challenges of the Future

Managers have always relied on different tools to help them perform basic planning, monitoring, and evaluation functions and carry out their roles of leadership, coordination, and communication. Tools can be simple or sophisticated. Many new tools originate in new technological systems. For example, the organizational chart, a critical tool for defining and integrating areas of responsibility was a product of the railroad revolution in the mid 1800s. **El**igible **Co**uple (ELCO) mapping, an increasingly popular tool for managing community-based service delivery, had its roots in scientific innovations in the disciplines of anthropology and sociology during the 1950s and 1960s.

The new tools of today are emerging from the revolution in information and communications technologies. These tools will be of value if they can help achieve reproductive health goals and integrate your efforts in family planning with the larger goals of sustainable economic and social development. In order to achieve these goals, all managers will need to address six critical management challenges of the next two decades: financing family planning services, providing rural populations with better access, improving service quality, integrating family planning services with other development programs, coordinating service delivery activities to strengthen national programs, and helping national programs to adjust to new demographic realities.

In order to successfully address these challenges, managers will need a wide range of information and a deeper understanding of increasingly complex subjects such as financing, decentralization, and community participation. Using electronic communications will help managers exchange critical information, access a vast resource base of knowledge and experience, and improve organizational management so that they can meet these challenges and build sustainable family planning programs.

Accessing Information Sources: The *FPM*'s Electronic Information Site Resource

Once you find yourself exploring the Internet, you will encounter a staggering number of information resources. To help you navigate this maze, we have compiled a list of a few electronic information sites that provide critical family planning and reproductive health information.

Mailing List Discussion Groups by E-mail

Demographic-L Listserv & Archives. This mailing list, run by the Demography Department of Australian National University, is an international forum begun in 1992 for the discussion of demography and demographic techniques. Messages have been archived on the ANU Web site (URL: http://coombs.anu.edu.au/ResFacilities/DemographyPage.html) since 1992 and are also available in the Demographic-L Archives.

E-Mail Address: majordomo@coombs.anu.edu.au

To subscribe: Send an e-mail to the address above; leave the subject line blank and include the following message in the body of the message text: "subscribe demographic-list [Your first name Your last name]"

For more information via e-mail, contact: Gavin.Longmuir@anu.edu.au

OR E-Mail Network. A mailing list, produced by the Population Council, focusing on operations research findings in family planning and reproductive health in sub-saharan Africa. Subscribers include administrators, policy decision makers, program managers, and researchers.

To subscribe: Send an e-mail to: ngouede@popcouncil.org; leave the subject line blank and in the body of the message type: "subscribe OR E-mail Network [Your first name Your last name]"

For more information via e-mail, contact: ngouede@popcouncil.org

World Wide Web Resources

Management Sciences for Health. The MSH Web Site contains general information about MSH and its projects worldwide. The Family Planning Management Development Project section of the web site (which can be accessed by selecting "Population and Family Planning" from the MSH Home Page and then selecting "FPMD") contains key technical information about FPMD's regional initiatives and publishes on-line issues of *The Family Planning Manager* and *GEMS (Growing Experience in Management Series).* Visitors to the site can also order FPMD publications on-line. FPMD will soon launch *The Family Planning Manager's Electronic Resource Center* which will offer a variety family planning, reproductive health, and management resources.

URL: http://www.msh.org

For more information via e-mail, contact: fpmdpubs@msh.org

The Reproductive Health Materials Working Group. This group consists of organizations who work with the Population, Health and Nutrition Center of USAID. This Web site contains updates on the materials under development by the Working Group's member organizations, proceedings from the recent "Internet Connections Conference" the group sponsored, and key information about accessing the Training Materials Database (TMDB), a compilation of materials that facilitate training in reproductive health. The site also contains lists of related Internet sites.

URL: http://www.med.jhu.edu/ccp/

United Nations Population Information Network (POPIN): Produced and maintained by the United Nations Population Division, the POPIN gopher has information on regional POPIN networks, background notes for countries worldwide, access to bibliographic and demographic data and databases, and directories of international population and demography organizations and resources.

URL: http://www.undp.org/popin/popin.htm

Gopher site: gopher://gopher.undp.org:70/11/ungophers/popin

For information via e-mail, contact: popin@undp.org

International Conference on Population and Development Home Page: This web site was produced by the International Institute for Sustainable Development (IISD) and includes the *Final Programme of Action,* a summary of the conference, and a link to the official UN Web site under POPIN which includes UN documents, statements from governments and NGOs, photos, and follow-up articles from various sources. The site is available in French and English.

URL: http://www.iisd.ca/linkages/cairo.html

For more info via e-mail, contact: enb@igc.apc.org

International Planned Parenthood Federation (IPPF): IPPF's Web site includes general information about IPPF, family planning statistics, current news, and full-text articles from *Planned Parenthood Challenges* and *People and the Planet.*

URL: http://www.oneworld.org/ippf/index.html

For more info via e-mail, contact: ippfinfo@ippf.attmail.com

Internet Guide to Population, Health, and Development: This Web site, produced by the Center for Communication Programs (CCP) at Johns Hopkins School of Hygiene and Public Health, contains a comprehensive listing of Internet resources useful to people working in the areas of health, population, and international development.

URL: http://www.charm.net/~ccp/webguide.html

For more information via e-mail, contact: mmc@jhu.edu

Electronic Journals

British Medical Journal (BMJ): Searchable archive of issues dating from April 1995 to the present.

URL: http://www.tecc.co.uk/bmj/

Journal of the American Medical Association (JAMA): Searchable archive of issues dating from July 1995 to the present. Site also has clinical updates, news, social and policy information, and other resource material on HIV/AIDS.

URL: http://www.ama-assn.org/register/welcome.htm (You must register before accessing the main JAMA home page; there is no fee to access the site.)

POPIN's List of Journals and Newletters: In addition to the resources listed above, POPIN provides access to an extensive list of over 40 journals in electronic format including *International Family Planning Perspectives* and *Population Reports*.

URL: http://www.undp.org/popin/journals.htm
Gopher site: gopher://gopher.undp.org:70/11/ungophers/popin/popis/journals/
For more information via e-mail, contact: popin@undp.org

Reviewers' Corner

A forum for discussing additional applications of FPM concepts and techniques

The following comments from several of our reviewers shows how some of our readers are using electronic communications technologies in their work.

On enhancing information exchange within programs . . . "Program sub-offices following standard guidelines can draft different sections of a document that can be assembled and edited in a short time in a central office. In this way, complex country reports can be generated rapidly and with genuine field and partner participation."

On training clinicians and managers . . . "In a major, sub-national maternal-perinatal mortality reduction project we plan to train clinicians and managers using electronic communications technologies."

On exchanging information with colleagues . . . "We use e-mail extensively to exchange information with other Latin American reproductive health programs. For example, we are part of a 150-strong list of PRESSER members, the CANAPE/WHO Regional Program on Social Aspects of Human Reproduction network. Information about conferences, scholarships, new publications, research results, and other news is regularly shared among this group."

On planning and managing programs . . . "E-mail has facilitated almost weekly exchanges between regional and central offices of the non-governmental and community-based organizations working on the issue of HIV/AIDS."

On collaborating with other colleagues . . . "Working under tight deadlines our organization took part in a study to look at the impact of the Paris Summit on AIDS held in 1994. Besides commenting on the protocol for the study, the questionnaire as well as the results were sent by e-mail. Even some of the revisions for the report were done through e-mail. Considering that this involved coordinating with teams from at least 20 different countries, the technology certainly was useful."

On sharing information and saving on travel costs . . . "The UNAIDS working group on evaluation sent out for review a draft of the policy paper that contained the framework and guidelines for evaluation of HIV/AIDS related programs. Even without being present in the meeting, I benefitted by reviewing the document. I felt it made the process more inclusive without having to spend more money on travel to bring all the people together in one meeting place. It also allowed them to finalize the discussion paper and include a wide range of comments and ideas without physically having another meeting."

On being proactive using the Web . . . "Reading and thinking about this topic reminds me that what is so important about the Web and e-mail is that they make things *available*. With the Web you only get information if you go looking for it, find it, and take it. It is a system for proactive users. E-mail arrives in your mailbox, sometimes even if you never sent any. It can be useful for both the reactive user and the proactive user."

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(For printed copies of the handbook, NGOs can e-mail: <ngls@nywork2.undp.org>, or write to NGLS at 866 UN Plaza, Room 6015, New York, NY 10025).

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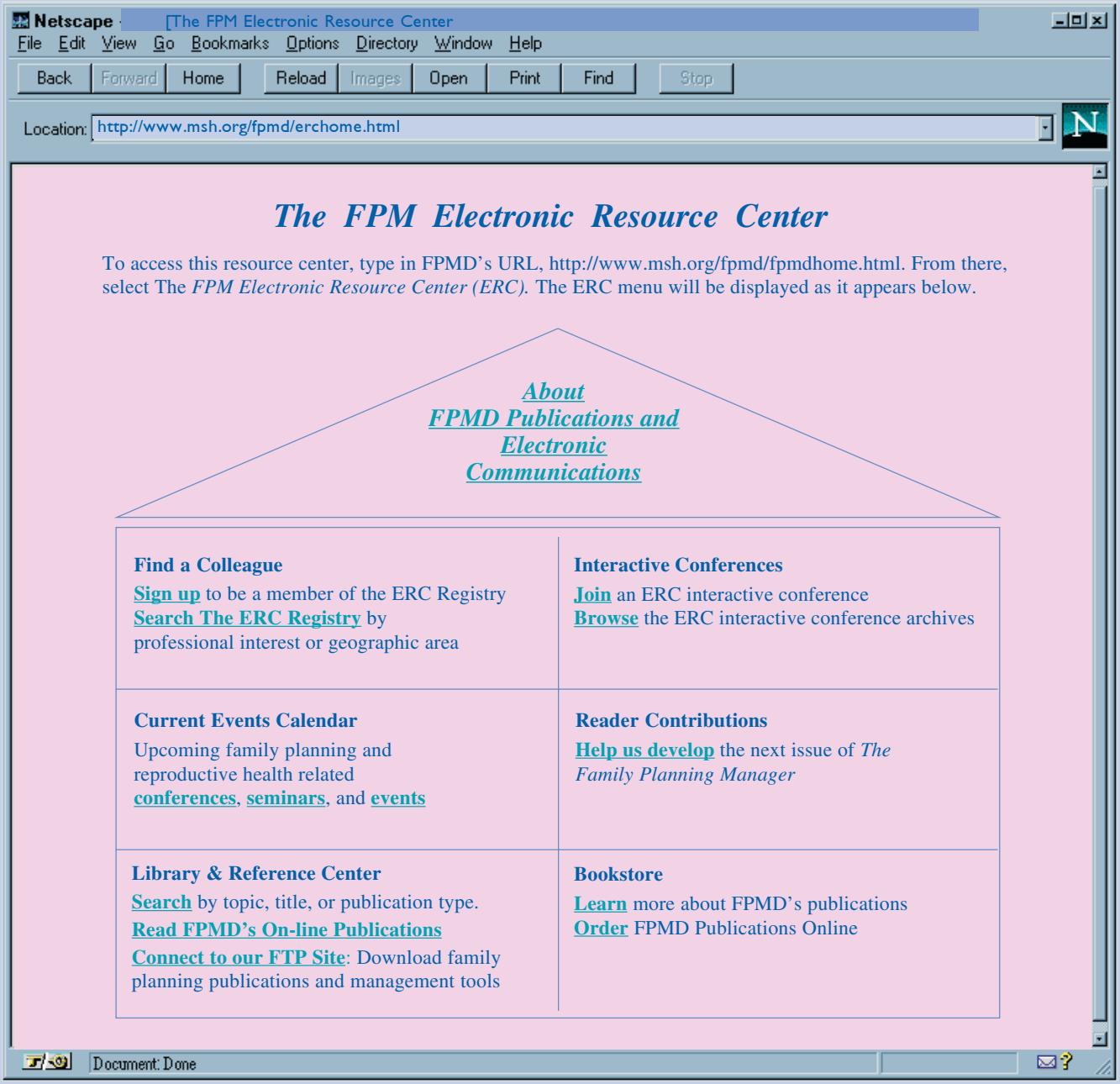
The *FPM Electronic Resource Center* Menu



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The

Family Planning Manager

A Primer for Accessing and Using Electronic Communications Technology

A supplement to *The Family Planning Manager*
"Using Electronic Communications in Family
Planning" Volume V, Number 2, Summer 1996

A Primer for Accessing and Using Electronic Communications Technology

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This supplement to *The Family Planning Manager,* "A Primer for Accessing and Using Electronic Communications Technology," is intended to help you learn what equipment, training, and financial resources you will need in order to use electronic communications. It provides you with the most basic information about the kind of equipment and software you will need, the questions you should ask in order to choose a reliable and appropriate communications provider, and guidelines on the costs of setting up a connection with a communications provider. It concludes with a glossary of terms and definitions commonly used in electronic communications and the language of the Internet. For further reading, please refer to the reference list on page 28 of this issue of *The Family Planning Manager.*

This supplement was developed in collaboration with Kerry Gallivan of SatelLife. Based in Boston, SatelLife is a nonprofit telecommunications organization dedicated to providing health care workers around the world with affordable access to critical health information through the HealthNet network and other communications services. Using a combination of computers, low-earth orbit (LEO) satellites, simple ground stations, telephone lines, and radio links, SatelLife allows HealthNet users to simply and inexpensively participate in e-mail discussion groups, communicate with one another by e-mail, and receive current international publications electronically. FPMD is currently working with SatelLife to further develop electronic communications for family planning managers in Asia, Africa, and Latin America.

Getting the Right Equipment

The two basic pieces of equipment that you will need to send and receive electronic messages are a **computer** and a **modem**. Because computers can run many different kinds of applications, the same computer you use for word processing or spreadsheet functions can also be used to send electronic messages if it has the appropriate communications software. Although almost any computer can be used to send electronic messages, the fastest and newest computers that are able to run the most recent software will provide the most advanced graphic and data-sharing capabilities for communicating electronically.

In most countries, and for most users, exchanging information between computers occurs over telephone lines—the same lines that you ordinarily use to make telephone calls and to send faxes. Therefore, to communicate electronically, you will need to be able to connect your computer to a telephone line. In areas where telephone services don't exist or are unreliable, satellite and/or radio can be used to provide the connection.

Currently, in most situations, to send messages across telephone lines, the digital signals used by computers to create and store messages must be converted to analog signals. The conversion from digital signals to analog signals is performed by a piece of equipment called a modem, which you connect to your computer and to the telephone line. Because the modem is the link between your computer and the telephone line, you must make sure that you select an appropriate modem. There are several issues to consider when selecting a modem:

- External modems (those which attach by cable to your computer) are usually preferable to internal modems (which are cards with circuitry and chips that are inserted into your computer) because external modems are easier to install and are often simpler to repair than internal modems.
- Fast modems can adjust their speed in order to communicate with slower modems.
- The faster the modem, the higher the purchase price will be.
- The modem speed must be 14,000 bytes per second (bps) or faster if you plan to use a graphical browser to connect to the World Wide Web (also known as "the Web," or WWW). If you are using a text-only browser, such as LYNX, slower modems are adequate.

Be sure to check with your local communications provider or with telecommunications authorities to see if your country has rules or regulations concerning the type of modem you can use for electronic communications.

Finally, it is advisable to protect your computer and modem from damage caused by electrical surges over telephone lines by using a surge protector or an un-interruptible power supply (UPS) that includes surge protection.

Understanding Your Software Options

In order to connect to your communications provider and send and receive messages electronically, you will need communications software on your computer. The type of software that you use will depend on the type of connection that you will have with your communications provider. There are several types of connections that different providers offer. These include shell accounts, PPP/SLIP, and store-and-forward connections.

A **shell account** allows the computer user to connect to the provider's computer and use the communications applications that reside on the provider's computer to communicate with other computers and users. Shell accounts often provide text-only viewing of the Web. They are real-time connections and require the user to be continuously connected to the communications provider's computer while communicating electronically. This can be expensive, since many communications providers charge their users based on the total amount of time spent using their services. To use a shell account, you need a **terminal program** installed on your computer. A terminal program allows your computer to dial your communications provider and communicate electronically. Terminal program

communications software is included with most computers when they are purchased.

Other communications providers will offer either an **interactive Internet connection** or a **store-and-forward connection**. An interactive Internet connection allows a connection to the Internet over telephone lines using SLIP (Serial Line Internet Protocol) or PPP (Point-to-Point Protocol) protocols, which permit use of the more advanced interactive tools available on the Internet. A store-and-forward connection, usually the least expensive type of connection, is limited to e-mail and e-mail discussion groups, and does not offer the features of an interactive Internet connection. Both store-and-forward and interactive Internet connections use e-mail software programs, which allow users to send and receive e-mail messages. An e-mail software program is very similar to a word processing program, but it has special features that allow you to send messages to specific e-mail addresses. Many e-mail programs also permit you to send word processing files or other data files as attachments, which are transmitted with your message. Among the more popular e-mail programs are Eudora and Pegasus Mail.

If you have an interactive Internet connection and wish to have access to the Web, you will need a software program called a **World Wide Web browser** on your computer. The Web browser will allow you to access and view information on the Web. There are two types of browsers; **text-based browsers,** such as Lynx, and **graphical browsers**, such as Netscape and Mosaic. Text-based browsers permit text-only viewing of the Web. Graphical browsers provide access to all of the interactive Web features, allowing you to see pictures, graphics, and even video, but they require more powerful computers.

Regardless of which type of communications service you choose or what software program you use, you will need to set up your computer and modem to work with your communications software. In most cases, a telephone number, a password, and an e-mail address (provided by your communications provider) are all you will need for this initial set up. If you are using the Web, you will need additional information such as your Internet Protocol (IP) address and the IP address of your provider's Domain Name Server (DNS). Your communications provider will give you this information when you establish your account.

Assessing and Comparing Communications Providers

When you are ready to set up electronic communications technology in your organization, you will need to find a communications provider that fits your needs and budget. Because communications technology is expanding rapidly in many areas of the world, it is likely that you will have to choose among several providers that offer a range of services at varying prices. To select an appropriate communications provider you should research your options and compare the features and costs of prospective providers available in your area. Some of the issues to consider include:

- Service costs;
- Telephone charges;
- Equipment costs;
- Modem speed;
- Software;
- Service support;
- Experience and reputation for good service.

Service costs. Cost is always one of a manager's primary concerns. The start-up and recurrent costs of setting up and maintaining your electronic communications system must be carefully determined. Research your options thoroughly before making a final decision on which communications provider you will use.

What are the connection costs? Consider both the cost of starting up your system and the recurrent cost of maintaining it. Obtain detailed quotes for *all* connection costs and get information about providers' usage fees. In order to accurately estimate the cost of your connection, you will need to estimate how much you and your staff will use the system,

and work with your communications provider to determine which pricing plan will be most advantageous for your needs. (See page 8 for a summary of common fee structures of communications providers.)

What will the training costs be? Consider the costs involved in training information systems staff to install, update, and maintain the system. In addition, you will need to estimate the costs of training other staff in how to use the system.

Common Fee Structures of Communications Providers

Each communications provider has its own fee structure. Many providers combine several types of charges. Some of the most common types of charges are listed below. (For samples of actual fee structures, see "Costs and Services of Selected Communications Providers in Different Countries" on page 8.)

- **Registration or subscription fee.** This one-time charge is usually paid at the time you establish your account with your communications provider.
- **Flat monthly fee.** This charge is usually a fixed monthly charge. It is generally better to choose the flat fee if you expect that your Internet use will be high. If you choose to pay on a flat fee basis and don't use the service very much, you could end up paying for more service than you actually use.
- **Time-based fee.** In this case, you are billed for the number of hours you use the services. The time-based fee generally suits lower-volume users (usually less than 30–40 hours per month). It is a good idea to ask if you can you switch to a flat fee at a later date if you find that you are using the service more than anticipated.
- **Traffic-based fee.** With the traffic-based fee, you are billed for the number or the size of the messages you send and receive. (Some providers use the number of messages as a measure of use and others measure amount of data sent or received in kilobytes.) You should be very careful if you choose this option, because it is difficult to control what you receive from others. For instance, if you subscribe to electronic mailing lists, one week there may be no activity and another week you may find yourself receiving a large volume of incoming messages, which, if your bill is based upon the amount of traffic, could generate significant costs to you or your organization.

Telephone Charges. Since you will use telephone lines to dial your provider, you will always incur some telephone charges based on the length of time you are connected to your provider. No additional *telephone charges* are incurred for sending and receiving each individual e-mail message, but there may be traffic-based fees charged by your communications provider as noted above.

Will you need to make a long-distance or a local call to reach your provider? It will be less expensive if you can find a provider that you can reach with a local telephone call. However, there are still many areas that do not have a local communications provider and you may have to use a provider in another country. You should be cautious of connecting to international communications providers. Connecting to an international communications provider often means that you will have to pay both international telephone charges (each time you connect to the communications provider) and a monthly connection fee. For example, if you are in Zimbabwe and wish to get a CompuServe account, you would have to establish your account in South Africa (where the nearest CompuServe hub is located). This means that you would first have to pay the cost of connecting to South Africa at international telephone rates, and also have to pay the monthly CompuServe usage fee. However, if CompuServe or another provider established a connection in your local calling area, you could use this provider without incurring long-distance telephone charges.

Will you need an additional telephone line? Depending on how often you expect to use electronic communications, you may need a second line so that telephone service will not be interrupted for long periods of time.

Equipment Costs. If you don't already have the necessary equipment, you will need to either purchase or rent equipment in order to use electronic communications technologies.

What equipment will you use, and should you buy or rent it? Determine what you will need and whether you will buy or rent it. Usually equipment costs will be a one-time cost unless you choose to rent or lease equipment, in which case it will be a recurrent cost. In the case of a dedicated line connection (a high-speed connection in which a private telephone line is leased from the communications provider or telephone company), equipment and line rental costs form a large part of the service cost and can be expensive.

How to . . .

Estimate the Cost of Your Internet Connection

It is important for all managers to be able to project the cost of maintaining a connection to the Internet. The following budgeting worksheet will help you plan your electronic communications project. You can use it to calculate your first-year budget. Some costs will be one-time costs only, others will be costs that occur every year. (There may also be additional costs associated with the use of information services, such as POPLINE, MEDLINE, or library databases, that are not included in the table below.) Illustrative costs of purchasing equipment and establishing and maintaining electronic communications are included in the table.

Item	First-Year Costs (in US dollars)
Desktop computer	$ 800 - 2,500
Modem and cable	$ 65 - 265
Telephone line	
Installation	$ 20 - 1,000
Monthly telephone charges ($ 5 - 50 x 12 months)	$ 60 - 600
Printer	$ 250 - 1,000
Communications software	$ 0 - 100
Service provider charges	
Installation fee	$ 0 - 100
Monthly charge ($ 5 - 100 x 12 months)	$ 60 - 1,200
*Transmission charges ($ 5 - 100 x 12 months)	$ 0 - 1,200
Training ($ 0 - 150 US per session x 5 sessions)	$ 0 - 750
*Maintenance contract on equipment	$ 250 - 500
TOTAL:	$ 1,505 - 9,215

* Not all communications providers include this charge in their fee structure.

Adapted from *Know Your Needs: Including E-mail and Information Support in Grants and Projects,* published by the American Association for the Advancement of Science (AAAS).

Modem Speed. Your selection of a modem will be greatly influenced by the communications provider and type of Internet connection you choose.

What modem speeds does your service provider support? Some providers may support only slower modems, so if you purchase a fast modem you may not be able to take advantage of its higher speed. In addition, some local phone lines may be unable to handle high transmission speeds and may adjust to a slower speed. Check with the local phone company about transmission speeds over the telephone. For example, in Nairobi, Kenya, telephone lines allow information to be transmitted at the rate of 20,000–21,000 bytes per second (bps). So, even if you have a 28,800 bps modem, you cannot send and receive messages faster than 21,000 bps. If you plan to use a graphical browser to connect to the Web, you will need the transmission speed to be at least 14,400 bps.

Software. You will need communications software to connect to your communications provider.

Does the provider offer communications software as a part of its service? Find out if your prospective communications provider includes software in its service package. If software is included, contact other users to find out whether they consider the provider's software to be good and reliable. You will usually need to use software offered by your communications provider, but you may have other options. If the provider doesn't offer software, you will need to buy a commercial product or obtain free software (often called freeware). In this case, you need to be certain that the software you choose is compatible with your provider's system. The disadvantage of using other software, especially if it is freeware, is that there may not be adequate service support available.

How much does the communications provider charge for the software it provides? Some providers offer free software. However, sometimes providers charge additional fees for software or require you to purchase a commercial product to use with their system.

Service Support. The type of service support a communications provider offers is an important component to consider in selecting a provider.

What type of installation support does your provider offer? Are there any additional costs involved? Many providers offer basic installation support and training. This cost is usually included in the initial start-up fee. If installation support and training are not provided, you will want to assess whether you

Getting Started: Locating a Communications Provider

To find a communications provider in your country, talk with your telephone company. Telephone companies are usually a good source of information about accessing electronic communications. Some telephone companies may even provide communications services; however, they may be expensive. Other sources of information include local business newspapers or magazines, computer repair shops, local university computer science departments, or local computer user groups or hobbyists.

or your staff will be able to install and use the system on your own. If not, you may want to investigate other computer services in your area or consider choosing another communications provider.

Does your service provider offer training? What kind of training courses are available? Where and when are they held? What is the quality of the courses? How much do they cost? Providers offer different types of training. Some will provide training to your specialized technical staff, such as MIS staff, who will be responsible for maintaining the system internally. Other providers will also offer courses to staff in how to use the service and the available software applications. You should ask if this training is included in initial start-up service costs or if there is an additional fee (it is most often an additional cost). If your provider does not offer training, or if the training is too expensive or of poor quality, you may want to seek out other options for training in your area, such as through local universities, computer companies, or user groups.

What kind of service support does your provider offer? Providers may offer a number of service support options, such as immediate service or service within 24 hours or within a few days. If the provider is not located in your area, you will want to find out if local support is available, how this support can be reached, and whether it is a reliable and reputable service. Some providers also offer instruction and tips that can be accessed through the Internet. These services often take the form of e-mail discussion groups.

How good and prompt are the technical services and support the provider offers? If other users of your prospective communications provider have had difficulty in getting reliable service or assistance, you should consider selecting another provider.

Experience and reputation. The importance of user experience should not to be overlooked. Try to talk to people who are currently using your prospective service provider to find out if they have experienced any problems.

Have other users experienced any difficulties connecting to the service? Is the connection often busy or out of service? There are several factors that may affect your ability to connect to your service provider, including poor phone lines. However, if other users are often unable to connect, then it may be due to problems with the communications provider and its systems or software.

How many dial-in ports (modem lines) does your service provider have, and how many users are signed up to use these lines? If a communications provider has a large number of users but only a limited number of dial-up lines, you will often get a busy signal when you try to connect. This can be very frustrating.

Costs and Services of Selected Communications Providers in Different Countries

The table below contains some key information about a selected number of communications providers. As the table indicates, international and local messaging charges vary from country to country.

Network Provider	Number of Users/ Number of Dial-in Ports	Messages per month	Recommended Modem (speed)	Gateway or Interactive Internet Connections	Cost Considerations (in local currency and US dollar equivalents) (Figures according to international exchange rates 07/01/96)
RIO Madagascar	100/NA*	NA		Gateway	Subscription: FF$ 1000 US$ 193 Monthly: FF$ 100 US$ 19 Per Page: FF$ 2 US$ .39
HealthNet Nepal	75/NA	2,000	28,8000 bps	Gateway	Registration: $NRs 2,232 US$ 40 Monthly: $NRs 558 US$ 10
MANGO Zimbabwe	270/1 (registered points/dial-in ports)	25 (MB) to/from the Internet	14,4000 bps	Gateway	Registration: Z$ 100 US$ 10 Monthly: Z$ 20 US$ 2 Usage fees Int'l mail: Z$0.15/KB US$.02/KB
MUKLA Uganda	1250/4	4500	28,8000 bps	Gateway, (Interactive Internet Connection in the near future)	Installation, Training/ Support: USh 57,200 US$ 55 Monthly: USh 10,400 - 104,000 US$ 10-100
SPIN Mexico	NA	NA	14,4000 bps	Interactive Internet Connection	Registration: Mex$150-215 US$ 20-28 Monthly: Mex$124 /20 hr US$ 16 each extra hr: Mex$5-7 .66-.92
HealthNet Kenya	NA	NA	14,4000-28,8000 bps	Gateway	Installation: KSh$3000-4500 US$ 51-77 Monthly: KSh$ 600-1400 US$ 10-24 Local Usage: Free
ZAMNET Zambia	400/20	54,600	14,4000 bps	Interactive Internet Connection Gateway for rural customers	Registration: (interactive) ZK 125,200 US$ 100 (gateway) ZK 62,600 US$ 50 Monthly: (interactive) ZK31,300-50,080 US$ 25-40 (gateway) ZK25,040-37,560 US$ 20-30 Connect time: (interactive) ZK 8,764-12,520 US$ 7-10/hr. Int'l mail: ZK 125-188/KB US$0.15-0.10/KB
REUNA Chile	NA	NA	14,4000 bps	Interactive Internet Connecton	Registration: Ch$ 20,250 US$ 50 Monthly: Ch$ 10,125 US$ 25

* NA = Not Available

Explanation: The **number of users/dial-in ports** is a measure of the communication provider's accessibility. Number of **messages per month** reflects the overall size and level of activity of the communications service. **Recommended modem speed** refers to the modem speed suggested by the provider. **Gateway** or **Interactive Internet connection** describes the type of Internet connection. **Cost considerations** lists the different fees that the communications provider charges. In most instances, these include registration fee, monthly service connection charges, and traffic-based charges for sending and receiving both local and international messages (For more information on provider fee structures, see "Common Fee Structures of Communications Providers" on page 4).

Installing Your System

Most communications providers have technicians who do the initial installation and training in how to use the software. Some providers may instead offer regular training and demonstration workshops that your staff can attend to learn how to install, maintain, and use the system. You may also want to consider other training resources that may be available locally, including computer science departments at local universities, or computer user groups, which are often accessible via e-mail. In general, computer technicians are very helpful when it comes to assisting new users.

Good written instructions for using software can be the single most useful tool to help new users of electronic communications. In many cases, the manufacturer of the communications software you are using will provide a user's manual. If software instructions are not provided by your communications provider, check to see if the provider will assist you in installing and using the software.

You can also search the Internet for information about installing and using your communications system. Often this information is found in the form of Frequently Asked Questions (also known as "FAQs"). These documents include information on a range of topics from setting up your modem to using different specialized communications software. Your communications provider can help you find these resources.

Finally, other users of the system can provide important and timely support and advice to new users. Many communications providers often conduct e-mail discussion groups, which provide a forum for users to ask questions and, usually, the responses come from other users. In this way, once you are connected to the Internet, you can become a training resource to others.

Tips: Getting the Most Out of Your Investment

- Consult with technical experts about hardware and software requirements.
- Get as much hard disk capacity and RAM (memory) on your computer as you can afford.
- Make sure you have planned for equipment maintenance and repair.
- Research the modem specifications carefully.

Communicating Effectively

Once you have successfully connected to a communications provider, you will be ready to begin using your computer to communicate with others and to access information from many places around the world. If you are familiar with using a word processor, you already know most of what you need to know to use your e-mail software program. You will undoubtedly find after a very short time that you can send and receive e-mail messages easily. As you begin to use e-mail, you need to be aware that there are some accepted rules for communicating electronically (often referred to as "net etiquette" or "netiquette"). When these rules are not observed, using e-mail can be both expensive and frustrating. Here are some of the most important rules to keep in mind when communicating electronically.

- Check your e-mail daily. If you don't check it daily, you won't benefit from the amazing speed and value of this communications technology.
- Keep paragraphs and messages short and to the point and edit long messages when you reply to an e-mail. This saves time and often money.
- Delete your unwanted messages so that they don't use up disk space.
- Assume that e-mail will be accessible to anybody and don't send messages that you would mind being read by the general public.
- Be professional and thoughtful. Remember that your message can easily be forwarded to many people.
- Be careful in using humor and sarcasm. E-mail communication lacks the visual clues that help the recipient of the message understand the emotion behind the message.

- Scan your system for computer viruses frequently to insure that you do not transmit viruses to others. Computer viruses can be transmitted via electronic mail.

Proper netiquette is important when communicating person-to-person. But you will find that many of your requests for information are not handled by people. This is because a large amount of information resides on computers, called servers. These computers can automatically process your request, find the information that you want, and e-mail the information to you. The main problem with this kind of automatic transfer of information is that you must tell the computer exactly what you want, in a format that the computer will understand. Therefore, when you send a request for a document you will need to compose your message in a specific format. The specific format required is usually explained in an e-mail that contains information about how to request the available documents (See "How to Request a Document Via E-mail" below).

How to . . .

Request a Document by E-mail

You will need to know how to retrieve a document via e-mail. This is a real example of how you can request and receive an electronic copy of this supplement or this entire issue of *The Family Planning Manager* by e-mail. Both the supplement and the issue are archived on the FTP site of *The Family Planning Manager's Electronic Resource Center*. Here is what you do to get these documents sent to you electronically. Try it to see if it works.

Step 1: Enter the address.

Enter the address: ftpmail@msh.healthnet.org on the address line of your e-mail.

Step 2: Request the document.

In the body of the message type the following exactly as it appears below (all text must be lowercase):

Command	**Explanation of command**
open ftp.msh.org	(The name of the FTP site)
chdir fpmpubs	(The directory where the file lives)
get supec	(The name of the file you want—in this case, the file name is for the supplement)
	(If you want the Issue, type "get issuevsn2")
quit	(You have finished your request)

If you are requesting the supplement your e-mail should look like this:

From: Your e-mail address
To: ftpmail@msh.healthnet.org
Date: June 30, 1996 11:50
Subject:

open ftp.msh.org
chdir fpmpubs
get supec
quit

Step 3: Send your E-mail

If you have any difficulty in receiving this document, please send an e-mail message to the editors describing what you requested and what happened. Send your e-mail to: fpmdpubs@msh.org.

Looking to the Future

Whether you have just begun to use electronic communications or have just started to think about getting connected, communicating electronically will bring you many new opportunities. In the future you will expand your access to expertise around the world, find and develop relationships with people with whom you share a common interest, and improve your knowledge and skills from information you will find electronically.

Setting up, maintaining, and using electronic communications will present a number of new management challenges. You will need to plan your system, develop adequate technical support to keep the system running, provide funding for the recurrent cost of the system, and train your staff to use the system to improve organizational productivity and effectiveness. The editors hope that this supplement has provided you with the necessary information to help you become an active participant on the Internet and that, as these technologies become as commonplace as the telephone and fax, you will use them to build and sustain your health and family planning programs.

Glossary

Anonymous FTP: Publicly accessible FTP sites in which users do not need to have pre-approved access to the site; they simply log in as *anonymous.*

ASCII (The American Standard Code for Information Interchange): A standard way for computers to use bytes to represent characters. ASCII text is simple text without any special formatting codes.

Browser: A software application that allows users to view the World Wide Web. Graphical browsers permit users to view text, graphics, video, and even sound, depending on the type of computer being used. Text-based browsers allow those with computer systems that cannot support graphics to view text-only versions of Web pages.

Byte: A unit that measures data capacity; one byte usually equals one character of text.

Bytes per second (bps): A measure of the speed of data transmission; the number of bytes of data that can be transmitted each second.

Click: The term used to describe pressing the mouse button when performing a function on the computer; users "click" on hypertext when choosing to follow a link on a Web page.

Client: A software application or computer that allows users to access information from another computer on the Internet called a server. A Web browser is an example of a client that permits users to connect to Web servers.

Communications provider: A company that provides electronic communications services, including access to the Internet.

Communications software: Software required to connect a computer to a communications provider.

Database: A database is a collection of related information used for archiving data. Databases can be found in both text and numerical formats.

Dedicated line: A private telephone line that is leased from the telephone company or a communications provider and provides a permanent connection to the Internet. Dedicated lines are most commonly used to connect large organizations or networks directly to the Internet.

Dial-in port: The location on a computer or computer system where a modem cable can be plugged in to allow data to be transferred to and from other computers.

Dial-up connection: Any connection between a computer and a communications provider made by calling the provider's computer using a telephone line.

Domain Name: A name given to a host computer on the Internet and registered with the DNS.

Domain Name Server (DNS): A distributed database system on the Internet that allows computers that are connected to the Internet to find one another. The DNS translates computer names into numeric Internet addresses and vice versa so that users don't need to memorize long lists of numbers.

Download: The process of transferring information from one computer to another. Users can download a file from another computer to their own computers.

Electronic conference: Another term for e-mail discussion group.

E-mail (electronic mail): The most basic of the electronic communications tools, e-mail allows individuals to send and receive messages electronically. E-mail messages are in plain ASCII text but, depending on the type of e-mail system, files in other formats can be transferred via e-mail, including graphics and audio files.

E-mail address: The address of the computer and the user to which a message is to be sent.

E-mail discussion group: A forum for a group of individuals to exchange information on a particular topic via e-mail. E-mail discussion groups usually use mailing list technology to share information.

FAQ (Frequently Asked Questions): A document found on the Internet that provides users with quick answers to frequently asked questions on specific topics. (For an example of a FAQ, see "Using the World Wide Web to Improve Program Quality" on page 16 of this issue of *The Family Planning Manager.*)

Fidonet: A store-and-forward network system (that uses earlier electronic communications technology) connected to the Internet. Fidonet networks are most frequently found in Africa.

Freeware: Also referred to as public domain software, Freeware is software that is freely distributed via the Internet. Freeware is often available on FTP sites.

FTP (File Transfer Protocol): A way of moving files across computer networks. Files can be transferred (or downloaded) from one computer to another. FTP sites are servers on the Internet, often publicly accessible (see anonymous FTP), that serve as file repositories where files are easily available for downloading.

Gateway: A system that allows smaller networks using different computer systems to connect to each other and the Internet, permitting the exchange of information across networks.

Gopher: A type of server used to share information on the Internet. Information located on Gopher servers is organized using a system of hierarchical menus and hypertext for ease of navigation. Gophers are accessible via e-mail and the Web. (For an example of a Gopher, see "Obtaining Demographic Information" on page 19 of this issue of *The Family Planning Manager.*)

Home page: The first page of a Web site. It acts as an introduction to the site and as starting point for navigating the site.

Host: A computer connected directly to the Internet. A communications provider's computer is a host, as are computers with permanent connections to the Internet using dedicated lines.

HTML (HyperText Markup Language): The code used to create Web pages with hypertext.

Hypertext: The highlighted and underlined text on Web pages that, when selected or "clicked" on with a mouse, links users to other resources, related text within the same Web site or other Web sites.

Interactive Internet connection: A real-time connection permitting full access to the Internet and use of the Internet's more advanced features such as the World Wide Web.

Internet: A worldwide network of computer networks that allows people to exchange information electronically.

Internet Protocol (IP): The standard protocol used by the Internet. Other protocols are used, but the Internet protocol is the most important one.

Kilobyte (KB): A measure of data capacity equal to 1,000 bytes.

Leased line: See dedicated line.

LISTSERV: The name of a popular commercial mailing list software. People sometimes (falsely) use "LISTSERV" interchangeably with "mailing list."

Login: The account name used to access a computer system (often used as a verb—the act of typing in a username and password).

Lynx: A text-based Web browser.

Mailing list: An automated electronic mailing system that transmits e-mail messages sent from one user to a specified group of users. Mailing lists are usually organized around specific topics and used for e-mail discussion groups.

Megabyte (MB): A measure of data capacity equal to 1 million bytes.

Micronetworks: Private communications networks that link together computers in different locations

within an organization. Micronetworks use e-mail and/or other Web-based technologies to exchange information.

Modem: A device that connects a computer to a telephone line and permits the computer to exchange data with other computers over the telephone line.

Mouse: A small tabletop device with buttons that helps users operate computer programs. A mouse lets the user easily move a cursor around a computer screen and perform various functions by "pointing and clicking."

Net: Abbreviated term for the Internet.

Netiquette: A set of accepted rules, Internet etiquette, for communicating electronically.

Newsgroup: A type of electronic mail discussion group, usually covering a specific topic, that works like a traditional bulletin board. Individuals can post messages to the "bulletin board" (a news server on the Internet). Others can use a newsreader to access and read all of the messages posted and respond to specific posts if they wish.

Newsreader: A software application used to read and post newsgroup messages.

Online: Usually refers to a "real-time" connection to the Internet.

Point-to-Point Protocol (PPP): A communications protocol that permits an interactive Internet connection. PPP is a newer technology than SLIP (see Serial Line Internet Protocol) and is quickly increasing in popularity.

Protocol: A set of rules that defines how computers exchange information, allowing different types of network computer systems to communicate with one other.

Serial Line Internet Protocol (SLIP): A communications protocol that permits an interactive Internet connection. SLIP is the predecessor to PPP, but is still in common use.

Server: A computer or program that provides "services" or information to another computer. For example, a Web server makes information available to other computers, these other computers use Web browsers (clients) to access the information.

Service provider: See Communications provider.

Shell account: A type of connection to a communications provider that allows the computer user to connect to the provider's computer and use the communications applications that reside on the provider's computer to communicate with other computers and users.

Site: A "location" on the Internet, usually referring to a server where information is available, for example, Web site, FTP site, Gopher site, etc.

SLIP: See Serial Line Internet Protocol.

Store-and-forward: An e-mail system in which electronic messages are temporarily stored at intermediate points on the Internet on the way to their final destinations. Store-and-forward technology does not permit access to the Web and the other features that an interactive connection provides.

Surge protector: A device that protects your computer and modem from damage caused by electrical surges over telephone lines.

TCP/IP (Transmission Control Protocol/Internet Protocol): A set of protocols that permits computers connected to the Internet to communicate with each other.

Terminal program: A software application that allows a computer to dial a communications provider and communicate electronically. A terminal program is required to use a shell account.

Uniform Resource Locator (URL): A Web site address; for example, the URL for MSH's web site is http://www.msh.org.

Un-Interruptible Power Supply (UPS): A device that provides a continuous supply of regulated voltage to a computer, printer, and modem. Many UPSs also provide a built in surge protector.

Virus: A computer program that uses various techniques for duplicating itself and traveling between computers. Viruses can be transmitted through computer diskettes or through online connections and can cause serious damage to computer hardware and software.

Web browser: See Browser.

World Wide Web (WWW): The most advanced interface currently available to share information over the Internet. Using hypertext, the Web allows users to easily navigate the Internet and access information in a variety of formats including graphics, video, and sound.

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