Using Intranets in Healthcare

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From being a virtually hidden realm known only to academic researchers and defense department contractors, the Internet has blossomed into the subject of magazine covers, entire magazines, television headlines, and countless books. Among the benefits of the Internet is that it allows expanded access to a wide variety of data and information—access unlimited by geography.

One of the tools that has catapulted the Internet into prominence is the World Wide Web (WWW), which provides an easy-to-use front end for accessing many disparate back-end platforms. Attention has now become focused on using Web structures and tools to improve the accessibility and usability of information within an institution and across healthcare systems. In fact, this concept is not confined to healthcare but crosses all industries.

Providing care for residents of long-term care (LTC) facilities often involves trying to coordinate care episodes from across the care spectrum. This may include seeking information that resides at the point of primary care, at an acute care facility, at a clinic or healthcare service center, or at a home healthcare agency. Historically, working to obtain copies of records has been an arduous and lengthy process. By integrating Internet technologies with existing information systems, the well-prepared institution can not only facilitate access to information but may improve the level, quality, and timeliness of the information delivered, thereby improving care and potentially minimizing overall costs.

To properly harness these advantages, the LTC provider must employ a carefully planned approach that embodies an understanding of the technologies and their appropriate uses. Before delving into those uses, we will provide an overview of the technology and its underlying concepts.

Intranets and Internets: The Same, but Different

An intranet represents the use of Internet tools within an institution. It is the set of tools and technologies designed for communication between organizations, solely for the private use of those organization and their employees. Transmission pathways for the Internet and intranets are the same: both rely...
on transmission control protocol/Internet protocol (TCP/IP) networks. But an intranet is different. Unlike the Internet, an intranet is bounded in scope, range, and purpose. Key differentiators in objectives between the Internet and an intranet include the following:

*The Internet* is heavily used to facilitate communication within an unknown group of individuals on a virtually limitless set of topics.

An *intranet* is designed for a select and controlled set of individuals who are using the linkages to accomplish a common objective—for example, operating a healthcare delivery system under the ownership of a single institution or set of institutions.

*The Internet* uses a wide variety of public pathways to route and deliver messages.

An *intranet* is typically carried over internal networks, dedicated transmission facilities, and otherwise controlled communications infrastructures. It is possible to use a portion of the public Internet to provide access to an intranet, but this usually occurs through the configuration of private tunnels and tight security.

Considering intranets and the Internet is akin to examining both sides of a coin. They share much in common but have differences. As we progress, we will continue to draw the parallels and distinctions between the two.

**Terminology**

One of the hazards of a relatively new area is that the terminology is not precise. Intranets have only come to the forefront in the last couple of years. Although based on technology and tools that have been in existence for over ten years, much of the nomenclature used still has the quality of Jell-O—that is to say, it wiggles around a lot. A broader definition of an intranet encompasses the use of any internal network for the transmission of information, much like a wide area network (WAN). But this is not our definition here. This article focuses on intranets as they rely on and use the graphic tools from the WWW to convey information within an organization.

Consider this article a beginning—an introduction to the concept and components of an intranet. We won’t discuss all the terms in play. However, we will discuss some of the management issues surrounding the use and role of intranet technology within a healthcare institution. If you decide that intranet technology would be beneficial to your institution, however, you will need additional information.

Throughout this article we make certain assumptions for the purpose of simplification. Because many choices must be made at every juncture, the range of choices and alternatives could rapidly become confusing, even paralyzing. Therefore, we will attempt to stick to a single path, with few detours. First, we assume a basic understanding of the current Internet. To comprehend
how an intranet might be relevant to your organization you need to have sat down for at least thirty minutes and surfed the Web, either by yourself or with a seasoned Web traveler. No words or diagrams can replace the experience of seeing the power and possibilities of this technology. If you have not done it already, go surfing with a friend when you finish this article.

Caveats

Even though we mention some of the tools required to build an intranet, the point of this article is not to present a how-to approach to do so. Many books, classes, seminars, and conferences are available for those wanting to master the skills necessary to build an intranet. Our focus is to put intranets in perspective. We cite products and their vendors only as examples; no mention of a product or vendor should be considered an endorsement. Furthermore, the Internet, from which many of these tools originate, is a rapidly changing environment. By the time you read this article, many things will have changed, including some of the vendors and products. The principles outlined here, however, will still have relevance—another reason to consider this a beginning.

Uses of an Intranet

Intranets are a hot topic. Ideas are being generated about how this new tool is the killer solution to all the problems faced by healthcare in distributing and accessing information. Although an intranet may be a highly useful tool, it is not a panacea. Like any tool, it has its uses and its abuses. As with any tool, it is important to understand how an intranet may be used to support the strategic and tactical goals of the organization.

Intranets are primarily of benefit in facilitating communication. The Internet evolved from the need and desire for open communication. Continuing this heritage, intranets are of greatest use in communicating a single set of information to a large group. Messages intended for a single individual can more appropriately be sent by e-mail.

The list to follow indicates some of the possible uses of an intranet. Consider this merely a starter list. An intranet is useful wherever it is the best tool to support a business objective; best use usually centers around the need to establish easy communication of a given set of information in a graphic manner to a diverse group of people across many types of end-user devices.

Make general announcements
Advertise special events
Announce blood drives
Announce continuing professional education and employee training
List cafeteria menus
Post copy from the human resources department
Show benefits summaries  
Note enrollment dates  
Publish an employee handbook  
Publish or describe standard reference materials  
Post MSDSs (material safety data sheets)  
Show payer insurance plan information  
Publish clinical reference volumes (for example, nursing manuals or drug references)  
Show institution-specific information  
Post visiting hours  
Provide facility maps  
Publish phone directories  
Indicate TQM (total quality management) and CQI (continuous quality improvement) progress  
Provide organization charts  
Provide forms  
Indicate PTO (paid time off)  
Provide means of ordering supplies  
Post employee surveys  
Provide suggestion box  
Provide patient care records  
Access legacy systems  
Place clinical orders  
Review results  
Present a unified front end

The list highlights a number of items that may already be communicated in your organization today. In this respect, the intranet becomes an alternative delivery mechanism. Does it have an advantage over the way this information is currently being delivered? In most cases the answer is yes. The reasons for this include the following:

Centrality of information: You may not know where the manual is, but you can find the computer.  
Ease of update: The information is maintained on a central server where it may be updated once, as opposed to the current task of printing an update, distributing it to all employees, and hoping that it is filed in the appropriate binder.  
Environmental friendliness: Less paper is generated and subsequently thrown away because the information can be brought up at any time on the system.  
Cost savings: Not only is there a saving in paper and office supplies, but a reduction is also seen in the requirements for shelf space and storage locations where the paper was formerly filed, as well as the elimination of the staff and processes needed to distribute these items.
Productivity enhancement: More rapid access to current information may not only save time but provide the correct answer, which translates into better decision making.

Information control: Having a single source for the current information reduces the likelihood that outdated or redundant information will be maintained or relied on.

Initially it may be simple to replace existing, mostly paper-based, distribution methods for information of general interest. If that is where it stopped, intranets would not be a solution to excite people. The excitement derives from intranets’ graphic nature, the ease of creating the pages, and the power to connect a Web page to other data systems. However, before we consider these, a small tutorial on what an intranet comprises may be helpful.

Components of an Intranet

As noted, intranets borrow heavily from the technology developed for the Internet. Thus the tools used in building an intranet share a common heritage.

Open Standards. The Internet is characterized by end-user or client applications, communications pathways (including transmission media, circuits, protocols, and other components), and servers that contain the content, or information. One attribute that has contributed to the success of the Internet is the reliance on open standards. These standards mean that there is true platform independence among the client, the transmission pathways, and the servers. The result is that the machine, the operating system, and the application used to create, send, view, or modify the content need not be related, provided that all adhere to the standards.

At the simplest level, an intranet consists of software, hardware, connectivity, and most important, content. Content is the actual information sought—the reason for the intranet’s existence. Content is covered in greater detail later in this article. At many institutions the connectivity component already exists. The hardware frequently used for hosting the Web server is similar to the equipment used for file servers on the existing network. The software is the truly new component for most organizations just embarking on the installation of an intranet.

Connectivity. Given its basis on standards, it is not surprising that intranets rely on the TCP/IP as a key to their connectivity. Given the prevalence of UNIX host systems in healthcare, it is very likely that this protocol is already in use at the facility. In this case, the ability for a given workstation to be a portal into the intranet is well on its way.

If the TCP/IP is not already well distributed throughout the facility, then adding this protocol to the stack on each workstation may pose a significant challenge to the organization. Unlike some of the other protocols in use, such as Novell Netware IPX/SPX or Microsoft/IBM NetBEUI, TCP/IP requires a
certain amount of planning and ongoing maintenance. It is possible, though not recommended, to create an intranet without installing TCP/IP. However, this tends to limit the products from which one has to choose to create the intranet, as well as the longer-term ability to connect internal workstations to the big outside world known as the Internet.

Figure 1 shows the components that would be required on a microcomputer running under Microsoft Windows. Similar situations exist for other types of workstations. At the bottom is the physical connectivity normally provided by the cabling infrastructure. Inside the microcomputer is the network interface card that (in conjunction with the network driver software, the protocols bound to the board at system start-up, and the TCP/IP driver software) serve to provide a means for the workstation to communicate over the network.

The second layer from the top is the Winsock.dll, which exists as an applications programming interface (API) to enable programmers to write network-capable applications while shielding them from the complexities of TCP/IP. The top layer is the browser itself—the face of the intranet.

For most organizations, the intranet is an addition to an existing network. By itself, an intranet would probably not justify the installation of a network across an institution. As part of a larger project, an intranet could contribute significantly in providing a business justification for such an effort.

**Server.** Most intranet servers are based on standard file server hardware. Thus one might choose a Compaq Proliant or a Hewlett-Packard NetServer, or a similar class of hardware as the basis for the server. The legacy of the Internet is based on UNIX, and this trend has carried over into the intranet market.

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**Figure 1. Network Stack**

<table>
<thead>
<tr>
<th>Network Stack</th>
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<tbody>
<tr>
<td>Windows Applications</td>
</tr>
<tr>
<td>(Web browser)</td>
</tr>
<tr>
<td>Winsock.dll</td>
</tr>
<tr>
<td>TCP/IP Driver</td>
</tr>
<tr>
<td>Protocol Bindings</td>
</tr>
<tr>
<td>Network Driver</td>
</tr>
<tr>
<td>(for example, NDIS or ODI)</td>
</tr>
<tr>
<td>Network Interface Card</td>
</tr>
<tr>
<td>(hardware)</td>
</tr>
<tr>
<td>Media</td>
</tr>
<tr>
<td>(physical connectivity)</td>
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</tbody>
</table>
also. A growing number of Internet and intranet servers, however, are based on Microsoft Windows NT. For organizations without in-house UNIX skills, Windows NT has the advantage of being easier to install and administer. There is almost a religious quality to the debates about whether one is better than the other. The decision depends on the organization.

Apple Macintosh, Novell Netware, IBM OS/2, and others also may offer a potential platform for the Web server on an intranet. Each of these has substantially fewer available applications but in some scenarios may be appropriate. The overriding benefit of creating an open-standards intranet is that what the back end is based on should have no impact on the ability to provide the content to the front-end workstation.

The server is where most of the action takes place. This is where the content is stored. The server, through the Web server software, provides most of the executing, indexing, searching, retrieving, and controlling of content. Thus the server hardware usually contains a large amount of both disk space and memory.

**Client.** The client is not a person. It is the place where the intranet comes together and may be any form of workstation that meets a minimum set of criteria. Because the biggest propulsion factor in the rapid growth of the Internet and intranets has been the ability to deliver critical content (information) by harnessing the use of graphic representations, one of the essentials is the ability to display graphics and use a graphical user interface (GUI). There are Web browsers for virtually all types of systems, from Microsoft Windows 3.1, Windows 95, and Windows NT to Macintosh, OS/2, and UNIX workstations. Two of the biggest vendors of Web browser software are Netscape and Microsoft.

The browser is an application that runs on the workstation and communicates over the network to the Web server. The main activity of the browser is to display information drawn from the server. To be displayed by the browser, the content is formatted in a standard markup language called hypertext markup language (HTML). The content is transported over the network using hypertext transport protocol (HTTP), which rides on the TCP/IP network.

In a nutshell, this standards-based collection of software is what enables an unbounded connection between the client and the server. Table 1 presents software components that may be useful in building the intranet and formatting the contents. Some examples of each type of software are also provided in the table; other software components will be discussed later in the article.

**The Investment**

Intranets have the potential to deliver value, but there is no such thing as a free lunch. Most people focus first on the up-front costs associated with getting the intranet off the ground. These can often be estimated fairly precisely. The list
to follow summarizes the categories that should be part of any budget estimate for starting an intranet (that is, the hard dollars). When planning the costs it is important to include the internal costs of the people directly responsible for the intranet creation as well as the internal costs of training the users. A few of the major costs are as follows:

Workstation hardware
Operating system
Memory upgrade
Browser license
Browser add-ins
TCP/IP license
Installation and configuration

### Table 1. Selected Intranet Software Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Function</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web browser</td>
<td>Provides for the display of the HTML pages on the user workstation</td>
<td>Microsoft Internet Explorer, Netscape Navigator</td>
</tr>
<tr>
<td>Web server</td>
<td>Provides the central location for HTTP services</td>
<td>Microsoft Internet Information Server, Netscape Commerce Server, Novell WebServer for Netware</td>
</tr>
<tr>
<td>Web-authoring and control tools</td>
<td>Creates and edits HTML pages and manages Web sites</td>
<td>Info Access HTML Transit, Microsoft FrontPage, Adobe SiteMill, DeltaPoint QuickSite</td>
</tr>
<tr>
<td>Search engines</td>
<td>Locates content within documents that are accessible on the intranet</td>
<td>Digital Equipment Corporation Alta Vista, Verity TOPIcSearch, Open Text Livelink Search</td>
</tr>
<tr>
<td>Database reporting tools</td>
<td>Extracts information from existing databases and provides report output in HTML format for display</td>
<td>Microsoft Web ODBC, Crystal Reports, Dazel MetaWeb, Information Builders, WebFocus</td>
</tr>
<tr>
<td>Programming tools</td>
<td>Creates interactive Web pages</td>
<td>Microsoft Visual C++, Microsoft VisualBasic Script, Symatec Café, Netscape Javascript</td>
</tr>
<tr>
<td>Network objects</td>
<td>Reusable objects for construction of Web-based applications</td>
<td>ActiveX, Perl modules, Java applets, C++ class libraries, Smalltalk libraries</td>
</tr>
</tbody>
</table>
If the costs of an intranet were to end at the start-up stage, an organization would still be spending a great deal. However, over time the ongoing costs are even greater. The intranet exists because it is a beneficial means for communication. But for people to view it as useful in their daily work the intranet must contain relevant, up-to-date information. To meet this challenge, substantial effort must be invested to keep the information current, including:

- Creating content and conducting ongoing maintenance
- Keeping information current
- Maintaining relevance and consistency
- Managing the infrastructure
- Monitoring network bandwidth and server load
- Monitoring security and access control
- Upgrading software and distribution
- Developing applications
- Rein in the “gee-whiz” factor
- Conducting ongoing training

Many people in an organization will contribute content to the intranet, so costs will be distributed across many departments. It will still fall to the IT areas, however, to maintain the infrastructure by which communications travel—usually the servers containing the intranet content.

Unlike most other implementations of systems technology, however, it is really up to the departments with something to say to make it available; thus the training in the use of the tools, such as Web-authoring applications, will be spread throughout the organization. Planning and allocating these costs should be considered part of ongoing intranet support. In addition, the use of
the intranet may change the way certain processes are performed, resulting in savings as well as costs.

**The Benefits**

One of the biggest changes wrought by an intranet is the manner in which people become aware of information. Sending out a memorandum to every employee is an example of a “push” delivery method, that is, the information is pushed to every employee, whether they want it or not. An intranet is essentially a “pull” delivery method; the information, or content, sits on the Web server until an employee requests it or pulls it down from the server. This may have major ramifications in an organization. One of the ways to bring the models closer together is to provide an update page that highlights significant events or messages.

**Using Links to Navigate**

An aspect of the intranet that we have not addressed is the linked nature of the content. Essentially, every item on a Web page can be a jumping-off place to a related topic. Thus, in the example of the update page, the one-line announcement of the appointment of a new chief of staff would be linked to the press release announcing his appointment. The employee would click with the mouse or other pointing device on the single-line announcement, and the browser would load the full press release. The press release itself would contain other links to the new chief of staff’s curriculum vitae (CV). By harnessing the graphic capabilities of the Web services, the CV might include a picture of the individual. Links in the CV might lead to abstracts of listed publications.

The ability to navigate using links and obtain additional information as desired has numerous organizational effects, some of which may engender resistance. Among these effects are the following:

- The power to own information is disrupted.
- Greater care may need to be exercised in presenting and phrasing information, as it is likely to be seen by a wider audience.
- Entire functions that were grouped around the collection and dissemination of information may need to be reengineered.
- The locus of control for the dissemination of information can be shifted closer to the originator.
- Employees will need guidance and training to prevent the abundance of easily accessible information from becoming distracting.

In many ways, the wider access to information can assist in flattening out the organization. This is in keeping with the trend in healthcare to work
toward a leaner, more economical approach. The benefits are available but require a concerted focus on distributing the ability to create the content.

**Giving Power Through Publishing**

An intranet empowers individuals and departments to create and “publish” their own content. Not too long ago there were substantial training barriers to an average employee’s ability to create a Web page. Luckily, tools that convert existing word processing documents to HTML pages make it relatively easy for end users to continue using the tools with which they are familiar. Then, in conjunction with individuals trained to use Web-authoring tools, the content and its display may be polished and linked with the rest of the Web site.

Following is a list of many of the skills needed by the intranet team; few people possess all of them. Included are experience and skill working with HTML, Perl, ActiveX, Java, TCP/IP and networking, graphic design and layout skills, Microsoft NT and/or UNIX, and SQL database querying.

The creation of intranet content provides an opportunity for cross-departmental teams to come together on a regular basis to create and maintain intranet content. Having a group dedicated to the ongoing maintenance of the intranet content can help maintain consistency in the presentation of material on the intranet.

**Maintaining Consistency in Presentations**

One of the biggest pitfalls in allowing many individuals to create content is the difficulty that may be experienced in maintaining a consistent look and feel. Most institutions devote a considerable effort to the presentation style and quality of all printed material—from logos to stationery to brochures, even the format of interoffice memorandums. The same care should be taken with the presentation of the content on an intranet.

Most Web-authoring tools enable the creation of templates or style sheets. In many cases, the style sheets in the word processing programs may also provide a basis for consistency of presentation and use.

Aside from providing the required high quality of presentation, consistency also assists the reader in quickly locating the information he or she is seeking and assists in the navigation of the pages on which the content is presented.

Part of the art of being a performer—on stage, on the high wire, or in delivering a successful intranet—is focusing on the factors necessary to ensure a successful outcome. The factors do not differ greatly from those necessary in many other endeavors. To construct a successful intranet, it is important to plan, organize, streamline, and highlight. The intranet should provide searchability, good indexing, consistency, printability, and testability. Users should feel empowered.
Planning Is Everything

The architect Daniel Burnham was often referred to as “the man with the plan.” He succeeded in changing the face of a major city because he shared his vision with those with the money and the power to make or break his plan. Similarly for an intranet, a plan is essential. Among the areas of intranet construction and maintenance that require planning are (1) the pilot phase, in which organizationwide effects, achievability, and manageability are demonstrated; (2) the funding phase, including both short-term and ongoing funding; and (3) the phase in which the determination is made as to types of information to be presented, where it will come from, how it will be formatted, and who will maintain it.

Making Content Accessible

The purpose of the intranet is to facilitate communication. For the content to have the maximum impact, care must be taken to make it accessible. This means that thought must be given to how the content is organized, how easy it is to find the item being sought, and what tools are available to assist. The way the information is laid out on the page and the way each page is connected to related pages is key; linear thinking can create a major trap for designers when they are creating a series of pages. The links should provide a way for users to pursue the track that is of most interest, so links should be plentiful. The design must permit quick, streamlined access.

Indices and search tools give users the ability to supplement well-designed links so they can quickly home in on the information being sought. Search tools, usually supported through the use of on-screen forms, permit users to look quickly at the content stored on many intranet servers. The search tools gain much of their speed from the indices built from the entire content. These search indices can increase the amount of disk storage by over one-half, but this cost is rapidly recovered in the speed delivered.

As much as everyone hopes that the intranet will eliminate the use of paper, that will not happen. People appreciate the tangible nature of paper. It is portable, they can write on it, they can make paper airplanes—and for a million other reasons, paper will not go out of favor. So all intranet content should be transferrable to paper. If graphics are important, they should be appropriate for black and white printers. Although computer screens can display many colors, most printers still print in black and white only. One benefit of the intranet will be that people can print only the information they require and not be forced to receive everything, wanted or not, on paper.

Web pages should be interfaced with the e-mail system to provide the reader with a rapid way to send comments, questions, complaints, and other messages to the creator of the page. The feedback received through this channel should be used to improve the presentation and content of the information
presented. Regular surveys, through the use of forms on the intranet, are also helpful to gain feedback on the value of the content.

Most Web server software also includes the ability to monitor the number of accesses (hits) made to a given page. This information is often of great benefit in establishing whether the information is being accessed and who is benefiting from its presence. If a given page is not receiving much traffic, it may be worthwhile to find out whether it is inaccessible or not useful.

**Risks**

Intranets provide a number of benefits. But aside from the outlay of funds and the dedication of internal resources, the potential risks of the intranet must be considered: security breaches, technology that moves away from internal standards, diversion of resources (staff and money), inappropriate use of Web tools, loss of control, release of sensitive or confidential information, overload of network bandwidth, disenfranchisement of those without access, and failure to reengineer for altered processes.

As with the use and distribution of any information, the potential for security breaches or improper use of information is present, even with an intranet. It should be a consideration in the design of the system as well as the manner in which the information is made available. Many secure Web products are available to authenticate users and encrypt transmissions. Thus it is possible to take advantage of the platform-independent ability to share information in a graphic format without compromising security.

Many of the other risks, including bandwidth overload, diversion of resources, and inappropriate use are no different from the challenges faced every day. Planning, monitoring, and overall good managing are required to minimize the impact of these risks.

Perhaps the biggest risk is that, as communications are shifted to the intranet and not distributed on paper for all to read, some employees may become disenfranchised. For example, how often would a member of the housekeeping staff log on to the intranet? Care must be taken to keep all employees in the loop. This may include providing access points in employee lounges and break rooms to enable all employees to be part of the communications loop.

**Clinical Use**

An intranet may offer a number of benefits in reducing paper distribution. It may also offer a way to provide updated clinical reference materials directly to clinicians on the floors (provided there is compliance with copyright, licensing, and distribution limitations). Many of these uses are relatively static in the sense that they do not change on a daily basis. Does the intranet have a role in direct patient care? The answer is yes.
Using database interface tools, data from a clinical system could be extracted and accessed by a browser for display. This is proving to be a beneficial way to provide physicians who are off-site with a quick check on the status of their patients. Before the advent of these tools, the investments in proprietary physician display systems were tremendous. Although these systems still have their place, they have significant hardware requirements.

Because the work of selecting records for display and collecting the data is performed on the Web server, in conjunction with the database server where the data reside, the requirements on the client (physician) side are reduced. The database reporting tool running on the Web server takes the output from the database server and formats it into an HTML page. Because a fully formatted HTML page is being sent, rather than a larger data stream, information transmission may be more rapid.

This scenario takes advantage of a three-tiered architecture whereby the “thin client” (the Web browser) is only responsible for display and communication with the middle-tier (the Web server), which in turn communicates with the host system that controls the data. This distribution of capabilities may help streamline information retrieval and display operations.

This example involved the transmission of patient data; secure Web server technology would be used to protect the confidentiality of the record. In addition, user-authentication technology, such as security servers and authentication servers, would ensure that only authorized users such as physicians had access to patient data.

Replacing the Legacy Interface

The current browser/Web server/legacy system architecture is suitable for inquiring into existing databases. However, the intranet is not yet capable of serving as a complete replacement for the proprietary user interface for healthcare systems. This unsuitability is grounded in the very nature of the Web architecture—it is stateless. The movement from one page to the next is a totally independent action. The Web server is unaware of the relationship between these two events.

The Internet architecture was designed to service a high volume of requests and thus does not maintain information about a session. The high-volume nature was also mainly a one-way process, from the Web server out to the client browser. For this technology to be useful for ongoing updates to databases—transactions in which data integrity is important—the client browser will need to be enhanced. Some leading institutions have made the investment to develop home-grown systems that address some of these challenges. At present, these efforts are only a beginning.

Conclusion

Intranets offer significant benefits to long-term care organizations. They can play a key role not only in enhancing communications and enhancing and unifying access to disparate patient data but in streamlining processes and flattening out
organizations. To harvest these benefits, effort must be devoted to planning, implementing and, above all, conducting ongoing maintenance and creating new content.

Intranet technology, derived from the Internet, is still undergoing rapid change. Many of the larger software vendors have placed the intranet squarely in their sights. This may ultimately bring about greater stability and backward compatibility; it may also lead to greater integration with existing productivity tools.

Both in administrative and clinical areas, intranets have a role to play. The full impact of intranet technology in clinical areas will be confined to the reporting of existing data. Until the robustness of the interaction between the Web browser on the client workstation and the Web server and other back-end systems is enhanced, the ability to universally apply this technology will be limited. Even over a period of several years, intranets will be only one of many tools at the disposal of the clinician and administrator.

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