

# Healthcare Selling Guide



*“Provider” = Healthcare professional (e.g., any physician, nurse, administrator, ancillary-care person). See Appendix A, page 21 for other key definitions.*

**Only NeXT provides a powerful, flexible, and cost effective solution for a seamless transition from costly paper and film to a fully-integrated, healthcare information and resource management system that providers like to use.**

*[Choose detailed benefit bullets depending on the Target you’re addressing]*

## **For the Hospital, HMO and Clinic**

- Enhances quality of care
- Enhances profitability through reduced costs and increased efficiency
- Seamless networking for ease of access into current, disparate information systems, preserving hardware investment
- Enhances relationships with patients
- Enhances ability to recruit and retain world-class employees and referring physicians, thereby increasing patient retention and market share

## **For the Clinician**

- Direct, accurate, and reliable access to critical information *when and where it’s needed*
- Improves efficiency and productivity by eliminating redundancy
- Superior imaging capabilities

## **For Educators and Students**

- Easily customizable multimedia platform that lets students focus on learning and information management instead of memorization
- Revolutionary, yet easy-to-use course and reference development tools

## **For the Patient**

*[Since “patients” are the Target’s customers, these benefits apply to all Targets]*

- Can give patient personalized information to make informed decisions about their own treatment
- Less repetition in getting info (“Enhances continuity of care”)

***[Note: Only 16 pages. Rest is Prospect list, Conference list]***

*“Clinician” = provider of direct (hands-on the patient) care (e.g., physician, nurse)*



## ***Healthcare Market Selling Guide***

The Big Picture	1
Sales Potential	2
“Sounding Informed about Healthcare”	3
Target Customers	4
Key Requirements & Solution Mapping	10
Selling Proposition & Solution Detail	12
Competition	16
Selling To HIS Vendors and VARs	17

### *APPENDICIES*

Definitions	21
List Of North American Medical Schools	22
Trade Shows and Conferences	26



## ***The Big Picture***

---

### ***Medicine is a huge, untapped market***

*Although many hospitals have been slow to update, Congress will soon mandate that all hospitals use electronic information systems to collect and report data.*

*To compete, institutions need to deliver expanded information management tools to their healthcare professionals.*

The cost of providing U.S. healthcare was \$765 billion in 1991 (over 13% of the GNP and 9 million employees!). This will grow to about \$1.5 trillion (18% of the GNP) by the year 2000. **Hardware and software will account for \$60 - 80 billion of this market—\$2.5 billion on the desktop.** Large hospitals spend between \$1.5 - \$3.5+ million on their initial HOSPITAL INFORMATION SYSTEM (“HIS”) purchase.

### ***Growing need for increased computer capabilities***

Collecting and managing patient data is the primary role of every healthcare provider. This information goes in the *Medical Record*, which is:

- *conceptually*, the one place for medical information during patient’s life
- *in reality*, a fragmented, illegible, inaccurate, or irretrievable data on paper or film
- often misfiled or unavailable, with older portions put into storage (often off-site)
- available to one person at a time (imagine a big company with only one phone!)

### ***What’s In The Medical Record? (See diagram on page 3)***

*The Medical Record includes clinical history and treatments, administrative data, and insurance information. Traditionally, this information is recorded on paper and stored. But medical data is multimedia and lends itself to storage, retrieval, manipulation and analysis on a multimedia platform: data collected via stethoscope (audio), ultrasound (full-motion video), educational information (graphics, animation).*

A few HIS (Hospital Information System) vendors (see chart on page 16) dominate the industry with turnkey solutions based on mainframe/mini technology that:

- lack flexibility, and are difficult and time consuming to use
- don’t offer cross-platform connectivity
- don’t support the natural collaboration between providers (physicians, nurses, etc.)

Standards don’t exist yet, but are being addressed at both a national and international level. **THE TIME TO REACH THIS MARKET IS NOW, BEFORE NON-NeXT STANDARDS TAKE HOLD.**

### ***NeXT has a compelling message (see Cover Page)***

People will tell you this is a “turn-key” sale—and for non-progressive Providers it is. But our “Custom Apps” sell excites many customers are interested because current HIS offerings are poor. NeXTSTEP doesn’t force providers to change the way they work because applications look and function like the “manual” paper tools they use today. Yet NeXT solutions feature “out-of-the box” multi-tasking, multimedia capabilities, and networking solutions that prevent duplication of effort and facilitate the retrieval of information when and where its needed.

### ***NeXT has an opportunity***

There is a tremendous sales opportunity for hospital info management and we can be proud of our strengths. And once the Provider organizations experience NeXT benefits, additional opportunities arise.



**NeXT TARGET:** Provider organizations with in-house development staffs — often teaching hospitals. And large corporate employers that directly contract for healthcare services.

### **Show them**

Start with the larger provider organizations in the area which are associated with Medical Schools. (see page 22). *The NeXT targets will have (or are planning to have) an in-house development staff.*

Also, if you know the large employers or NeXT customers in your territory, find out if they contract for health services directly with any provider organizations. These relationships are becoming more common as employers try to cut ballooning healthcare costs and forces the employer to manage the administrative side of patient care.

## **Sales Potential**

---

*The healthcare information market is entering an enormous growth phase. Initial successes will determine who leads the market*

### **Why Healthcare?**

#### **A big market**

~\$2.5 billion market for desktop systems—and growing 30% - 40% per year.

#### **A motivated market**

To stay in business, healthcare providers need to cut costs while preserving highest care quality. Moreover, Congressional legislation under debate would mandate that all US hospitals use electronic patient records (core of an HIS) in the near future.

### **Why Now?**

With nearly 10% of all hospitals closing annually, mostly because of insurance reforms that limit payments, the productivity drive is hot. Successful organizations are downsizing operations, including consolidation and de-centralization.

*“Outcomes Studies” dictate which treatments should be offered and how much insurance will pay.*

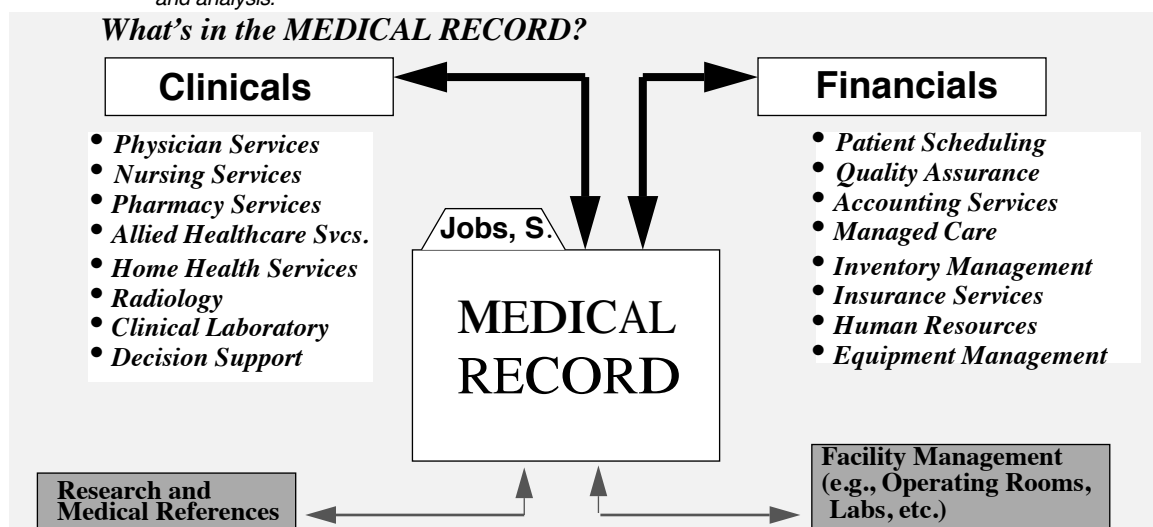
### **Clinical Outcome Studies: How much will Providers get paid for services?**

*When is a treatment appropriate and how much will an insurance company pay for it? This will be answered by analyzing clinical “outcomes” – correlating clinical data with treatments and their relative successes. Providers will be required to establish standards for type, timing, and duration of treatments (i.e., “Practice Guidelines”). These standardized treatment will be assigned a dollar value, and NO PROVIDER WILL COLLECT MORE THAN THAT AMOUNT FOR THE TREATMENT, REGARDLESS OF THE ACTUAL COSTS. THIS IS GOOD NEWS FOR NeXT. Since any valid study must be “controlled,” outcome data requires input control — data MUST be input by the Clinician at the “point of care”. Only NeXTSTEP-based systems combine sufficient power with easy-to-use data entry that clinicians will use. Remember, if the clinician doesn’t input the data, the data is almost meaningless.*

## Sounding informed about Healthcare

### What you don't know will hurt you! Make sure you know...

- Clinical “Outcomes Studies” determine the “appropriateness” of treatments**  
*How often should an overweight, diabetic Hispanic male have his eyes examined? When is ANY treatment appropriate? How much will an insurance company pay for that treatment? These are answered by analyzing clinical “outcomes” – correlating patients’ clinical data with treatments rendered and the relative successes.*
- Clinical Outcomes Studies lead to “Practice Guidelines”**  
*Data collected and analyzed by many provider sources will be used to create Practice Guidelines – step-by-step “cookbooks” that dictate which treatments should be rendered at what times and under what conditions. Providers that don’t follow these guidelines could become financially and legally responsible to defend decisions*
- Need to *unify* Clinical and Administrative data (current & future)**  
*Pending Congressional legislation could MANDATE US Hospitals to start using clinical and administrative information systems by January 1996!*
- Healthcare becoming regionalized**  
*Hospitals will pay a premium to become the dominant regional force. The leaders will need superior data management tools.*
- Consolidation between solo physician practices yields “Group Practices”**  
*Physicians attempt to diversify their risks and increase services. Hospitals encourage the formation of these group practices to get more patients referred to them.*
- Hospitals establishing networks of outside physicians to generate “Referrals” to the hospital**  
*Physicians will embrace these networks if they get access to more and better information when and where they need it*
- Corporate employers starting direct contracts with Provider organizations**  
*Employers then manage the patient administrative info themselves. This is “mission critical” because these costs are so high.*
- Providers trying to aggressively measure Physician & Nurse productivity**  
*Will need customized applications to capture and analyze the data.*
- Office-based doctors doing more tests in their offices (instead of the hospital) to increase revenue**  
*They’ll need extensive quality assurance (QA) measurements requiring data collection, tracking, and analysis.*



## Target Customers

---

*Because VARs dominate the market, these customers are not used to dealing directly with hardware vendors.*

*We seek medium to large provider institutions with software development staffs.*

### Primary Market

Large hospitals, HMOs and clinics that want to become a dominant force in their regional market.

#### NeXT Profile

- 100 - 200 beds or more for Inpatients (patient stays over night)
- [or] Outpatient (“same day”) facilities > 50,000 patient visits per year
- Has (or planning on hiring) an internal development team (most often in the largest hospitals & clinics or those affiliated with medical schools)
- Understand the value of *integrating clinical and administrative data*

#### **What’s The Difference Between Clinical and Administrative Information?**

*Traditionally, there is a distinction made between clinical and non-clinical (administrative) information. Clinical information is generated from practices and procedures directly involving the patient (e.g., medical history, physician’s orders, drug dosages, laboratory test values). Non-Clinical information is indirectly related to the care of the patient (e.g., accounting, insurance, and billing information).*

### Secondary Market

- VAR’s with current packages (see page 17 for guidelines on selling to VARs)
- Clinics or smaller hospitals with innovative management, especially those with lots of outpatient care to manage (e.g. San Diego Hospice with 48 units)
- *The Holy Grail*: Hospitals which operate as a network hub in a community-wide or regional enterprise (see Healthcare Networks, below). *This builds a NeXT franchise in your local medical community!*

## Typical Terms for Provider Organizations

*Typical Mission Statement: to provide leadership in healthcare to the community while maintaining financial stability and independence*

### Short Term Hospital

- Local critical care centers (like a big intensive care unit): Deals with patients requiring immediate and often specialized treatment
- Inpatient care (< 30 days) generates highest *revenues*
- Outpatient services net highest *profits*
- Requires ways to manage and integrate high volume of data within and between different departments, each with different needs

### Long Term Hospital

- Care for inpatients requiring long-term care (> 30 days)
- Includes psychiatric hospitals, rehabilitation facilities, and alcoholism and chemical-dependency hospitals
- Emphasis on patient and family education creates demand for easy-to-use and customizable multimedia computers

**Health Maintenance Organization (HMO)***[e.g. Kaiser]*

This environment is like a hospital franchise with a management-heavy atmosphere emphasizing cost-effectiveness. (see related story in Appendix)

- Large organizations: multiple, geographically separate sites that need contact
- Customizable “mission-critical” applications are key to cost-effectiveness
- Have or plan to bring-on extended IS staff, including programmers.

**Clinics***[e.g. Mayo—53 units]*

Single or multi-specialty practice environments with salaried physicians.

- Typically outpatient based
- May also operate a full-service acute-care hospital
- Usually have research departments pushing the medical envelope

**Preferred Provider Organizations (PPO)***[e.g. Preferred Healthcare—200 units]*

Management organizations that contract with hospitals, clinics, groups and private practices. Physicians agree to be reimbursed at a fixed rate for a particular service. Patients chooses from a list of doctors.

- Manage affiliated physicians and patients .
- Manage non-clinical data among multiple independent providers

*To many, Group Practices are the administrative “lean, mean” organizations of the 1990s.*

**Group Practice**

Fastest growing segment of the medical market. *By the end of this decade, many small hospitals will be replaced by large group practices.* Group practices offer the services of a clinic, but with lower overhead because of pooled administrative resources.

- All outpatient, but refers patients to local hospitals
- Most cost-effective form of medical practice
- Computing needs depend on number of employees, number of specialties and services offered, number of locations, and whether or not the practice needs to be tied into a hospital, lab, x-ray facility, and/or electronic claims filing service.

**Teaching, or University-Based Hospitals**

*University hospitals often have access to inexpensive programming talent*

*University or “Teaching” Hospitals are affiliated with either a medical school or a graduate-level (residency) training program. They attract cutting-edge specialists with research interests, so the patients tend to be much sicker and have more specialized needs — consequently, teaching hospitals are reimbursed at higher rates than other hospitals. These hospitals have existing automation but need to centralize information services. Sometimes, there is a loose affiliation between a University and its hospital’s computing services. NeXT offers a way to manage heterogenous environments while preserving integration into the University environment. NeXT also provides both the medical student, resident, and patient with the most powerful, yet cost effective multimedia platform to meet their demanding educational needs.*

### **Hospital Networks: A growing interest & a major opportunity**

*“Healthcare Networks” refer to a group of affiliated institutions. These networks may be the future of U.S. healthcare and are believed to be a “win-win” for all, including the patient. The most common network is the “Hub and Spoke” model: the hospital is “at the center” of a spoked wheel and treats only the critically ill. The “spokes” radiate into the surrounding region linking affiliates, including solo & group practices, labs, imaging facilities, pharmacies, long-term care facilities, etc. Only the sickest patients go to the high cost Hospitals, which lowers net overhead (e.g. patients with a cold don’t go to the emergency room — a common, but expensive practice ). SELL TO THE CORE HOSPITAL AND YOU’LL USUALLY GET THE SPOKES. SELL TO THE SPOKES AND YOU HAVE AN IN WITH THE CORE.*

### **The Players**

*Don’t demonstrate a variety of specific solutions in group settings. Demonstrate solutions common to all groups (such as NeXTmail) and save specific solutions for individual interests.*

Key observations:

- **Committee Decisions**  
*Committees usually include representatives from the administrative, physician, nursing, laboratory, and medical records staffs. Administrative representatives might include the CIO, CFO, or CEO.*
- **Consensus sought but usually not reached.**  
*There’s inevitably fighting between departments over resources. Establish champions in each group with committee representation and avoid the consensus trap.*
- **Personal agendas hidden behind Altruism**  
*The nature of healthcare is, in itself, altruistic. . . taking care of others. But because of resource fighting the motivation of each individual is usually very different than that of the organization.*

### **ADMINISTRATIVE**

**Hot Button:** *Extending healthcare delivery through a “network” model — specifically, the ability to attract high-profile group practices and other clinicians for patient referrals*

#### **CEO**

- Usually makes final decision but doesn’t participate in decision making process.
- Relies on the CIO, CFO, and, to a lesser degree, the Medical Records Director to represent administrative interests (CIO is usually most influential)
- Always concerned with the bottom line, cost containment, and institutional image

**Hot Button:** *Networking standards, ease of use, development environment, and viability issues*

#### **CIO**

- Most influential person — can’t win sales without
- Considered the technical expert
- Concerned with accessibility and manipulation of mainframe or mini-computer stored data
- Concerned about linking disparate, heterogenous environments within the context of present and future (enterprise) needs.

**Hot Button:** *Preserve current investments and get handle on operations via better information management*

#### **CFO**

- Concerned with protecting organization’s current investments in technology and minimizing such investments in the future
- Will play a dual role as the CIO if that position has not been created



**Hot Button:** Streamlining operations via elimination of redundancies and access to clinical and administrative data timely fashion

**Hot Button:** For any clinician, always come back to enhancing the quality of care and eliminating redundancy

**Hot Button:** Varies, but mostly to preserve (or make) their reputation. Establishing a good relationship is the best in-road to multiple sales

### **Medical Records Director**

- Often the biggest advocate of automation
- Usually feel that they should be in charge of such projects but aren't given the authority that they deserve.  
*You are perceived as either: 1) someone who understands their plight and can empathize, or 2) the enemy! Depending on which, this person will invest a lot of energy in helping you succeed or in making sure you fail.*

## **CLINICAL**

### **Physicians**

Even though time-pressured and results-oriented, most physicians aren't convinced why and how they need computers. They benefit most by:

- Access to the right information *where and when its needed*
- Eliminating duplication of efforts
- Getting back information in 2 - 3 seconds rather than hours

### **Nurses**

- often the primary care providers, especially in a hospital setting
- usually treated poorly by physicians who often view them as subordinates

Nurses can often be your best advocate or your worst enemy. *Treat them with respect and demonstrate empathy for their over-worked, under-appreciated profession. DO NOT ALLOW YOURSELF TO BE PUT IN THE MIDDLE OF THE NURSE-PHYSICAN RELATIONSHIP.*

### **Consultants**

- Assist during the entire process from needs analysis to systems specification to writing a request for proposals (RFPs)
- Big-6 Accounting Firms (who have moved into this field from their financial consulting), but not the most qualified
- Smaller firms that specialize in healthcare information systems (e.g., First Consulting Group, Sheldon I. Dorenfest and Associates) are real specialists
- Represent an expert opinion in the HIS marketplace

## **Finding Target Customers**

- See attached list of *North American Medical Schools*. (See Appendix B, page 22)
- AHA Directory of Healthcare Professionals  
*The AHA provides institutional & personal info in a state-by-state book format. Ken Rosen (x3706) can send you a hard copy for each State (only available by complete State)*
- University Telephone Directories  
*Universities publish phone directories that will typically include medical center employees. These directories provide a list of names, titles, positions, departments, and telephone extensions that might be useful in identifying individuals to contact.*

- Large Corporate Employer HR Departments  
*HR administrators at these companies might discuss some of their current problems and needs regarding employee healthcare, including where their employees go to receive treatment. One-third of all employers with more than 500 employees will be directly managing these provider relationships by 1993.*
- Trade Shows/Conferences  
*Medical conferences and shows can focus on areas from a particular specialty (e.g., Radiology) to broad concerns like governmental and political issues (e.g., healthcare payment reforms). One thing is certain – some company (usually a drug manufacturer) will “sponsor” the event. This form of sponsorship can include everything from coffee and pastry with a 5 minute “presentation by the sponsor” to weeks worth of sales presentations in a luxurious resort. The most important medical trade shows include SCAMC, HIMMS (SJ will be giving a keynote speech at the 1993 HIMSS show in San Diego March 1-4), and RSNA. (see other top shows in Appendix C, page 26)*

*By finding a member of the IS Staff and asking these Disqualifying Questions first, you will save yourself enormous amounts of time.*

## Disqualifying Questions

1. Do you already have an enterprise-wide information system(s) that is geared toward integrating administrative and clinical records?  
*If Yes, then they will probably be looking to protect that investment and won't be willing to buy into a new platform.*
2. Do you have/plan to hire an internal development team.  
*If No, then NeXT can't provide an enterprise-wide “plug and play” solution as of yet. Refer to the third-party developers in the NeXT In Healthcare Solutions Catalog as possible beta-sites.*
3. What is your average occupancy rate (Hospitals Only)?  
*If less than 50%, they won't be in business long enough to worry about it. If between 50% - 70%, continue, but don't spend too much time until you check out whether they really have the budget. If more than 70%, continue to next question.*

*Once you've made it past the Disqualifying Questions, the Target is a potential NeXT prospect. Use these Qualifying Questions to gauge interest in innovation.*

## Qualifying Questions

4. Is integrating information from multiple sources important to you?  
*If Yes, then only NeXTSTEP solutions provide “out-of-the-box,” plug-and-play networking capabilities to simplify the transition from disparate, heterogeneous systems to a distributed, client-server environment while preserving data access across all platforms and protecting current investments in time and equipment.*
5. Is Continuous Quality Improvement (CQI) an stated part of your organization's strategy?  
*If Yes, then NeXTSTEP-based information systems can provide the most powerful, flexible, and cost-effective solutions available to the healthcare professional.*
6. Are you concerned about the validity and predictive capabilities of outcome studies?  
*If Yes, then only NeXTSTEP will provide a solution that providers will actually want to use, thereby allowing inputs to be controlled at the source of information generation.*
7. Are you actively involved with internal “Outcome Studies” as you plan your internal Practice Guidelines?  
*If Yes, then NeXTSTEP provides cost-effective solutions in Managed Care settings that will facilitate the delivery of high-quality, appropriate care, as well as flexible reporting capabilities that are easily customized to meet the needs of you and your clients.*

8. Has attracting and retaining top performing Providers and Referring Physicians a major concern for your organization?

*If **Yes**, then NeXTSTEP is the solution that providers will actually want to use. And top healthcare providers know the value of a powerful, flexible information management system because it will save them time and energy.*

9. Is there a major campaign to decrease your organization's operating costs?

*If **Yes**, then NeXTSTEP-based solutions provide high-powered, yet easily customizable reporting capabilities to allow you a direct look at the cost of providing care, rather than relying on indirect inference from potentially misleading information.*

10. Is being a regional or national leader in patient education and the delivery of personalized care a priority for your organization?

*If **Yes**, then only NeXTSTEP provides a powerful, multi-media environment that is easily customizable to deliver personalized, culturally-sensitive patient education material that is actually meaningful to the patient and their family.*

11. Is being at the forefront of new trends and information, such as changes in national Practice Guidelines, important to your organization?

*If **Yes**, then NeXTSTEP will give providers an easily modifiable and customizable environment—flexible enough to respond to the continual updates.*

## ***Target Customers Decision Process***

A typical successful selling cycle: length varies between 3 - 18 months, but typically averages 9 to 12 months.

1. Identify the larger hospitals (>100 beds) in the area.

*Use the sources listed in Appendix B (page 22) and Finding the Target Customer (page 7).*

2. Call the hospital and ask the operator for the names of and phone extensions for the CIO or Director of IS (or computer systems). If having trouble getting to IS, contact the Director of Public Relations (or Patient Relations, or Hospital Marketing).

3. Identify the HIS Director and Disqualify/Qualify.

*The HIS Director or someone on the IS staff can probably answer the Disqualifying Questions. If they make it past these, chances are that they will respond positively to most of the qualifying questions.*

4. Find out how enterprise-wide IS decisions are addressed (e.g., is there a committee, and if so, who's on it?).

*GET CONTACT NAMES FOR THE PEOPLE & FACTIONS INVOLVED IN THE DECISION. Try to demonstrate to individuals first: finding "group" meeting time is typically difficult to coordinate with clinicians AND clinicians tend to be negative (or at best deadpan) in groups.*

5. Demonstrate content-sensitive demos to groups individually.

*Try to keep groups separate based on information management needs. Don't waste time showing the CEO or clinician the ease of network or font management. Instead, always look to deliver the following message to each group: SIMPLE, POWERFUL, FLEXIBLE. Use applications like NeXTmail with Lip Service and other multi-media capabilities. Use IB/DBKit demo in SalesInfo. Use Improv to demonstrate the flexibility of graphic reporting tools.*

6. If possible, seed the IS staff with one or two machines for a month. Keep in touch often.

*Spend as much as a week on training. Healthcare IS people are usually used to mainframes. Reinforce benefits on Cover Page so that they can pass them on later.*

## 7. Coordinate activities with appropriate developers and VARs.

Go over the Healthcare Solutions Catalog with the customer. Bring the developer in **EARLY** if a product makes sense. They'll be able to speak the Providers' language.

## Key Requirements & Summary Solutions

### Requirements and NeXTSTEP Solutions

Provider organizations want to integrate current, piecemeal systems with newer, integrated clinical systems designed around the care of the patient rather than finances.

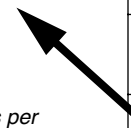
Generally, hospitals manage financial and billing data on mainframes and minis that are accessed by dumb terminals or PCs. Smaller hospitals and clinics often contract out for these services.

Currently, if clinical information is managed, it is done so on a stand-alone, departmental basis (e.g., clinical lab, radiology, pharmacy, etc.).

**NOTE: Most NeXT apps are still in beta!**

Critical Requirements	What They Use Now (Most common methods)	NeXT Provides (Detail in next section)
Medical/Patient Records	Paper, Film	Oceania Logibec Clinibase 2000 Glen Carbon OnTrac MR Trego HealthBase Cetonia DocCube
Financial Services/Billing	Mainframe or Mini-based systems (in-house or contracted)	Logibec Clinibase 2000 Glen Carbon OnTrac Billing Trego CaseServ Tecor Advantage NeuroDimension TIMMS Avalon Healthcare Systems
Appointment Scheduling	Paper or PC-based software	Oceania Logibec Clinibase 2000 Tecor Advantage NeuroDimension TIMMS Avalon Healthcare Systems
Order Entry (test, drugs, instructions, etc.)	Paper or Mini/Mainframe based	Oceania Logibec Clinibase 2000
Referral Management	Not Done or dedicated telemarketing system	Glen Carbon OnTrac Referral
Managed Care	Paper	Trego CaseServ Trego HealthBase
Capitation Management	Paper	Trego CaseServ Trego HealthBase

Capitation = fixed rate reimbursements for "member" providers based on total treatments rather than actual services rendered (usually expressed as "treatments units per member per month")




<b>Critical Requirements</b>	<b>What They Use Now</b> (Most common methods)	<b>NeXT Provides</b> (Detail in next section)
Contract Management and Negotiation	Paper	Trego CaseServ Trego HealthBase
Teleradiology/Radiology Image Management and Manipulation	Film	Metecon M2000 Dazzl Radiology Fileroom Insight S/W ElectroFile
Emergency Medical Services	Paper	Glen Carbon OnTrac EMS
Laboratory (Pathology) IS	Stand-Alone systems	GCS DataNet
Medical Education Apps	Nothing or various authoring tools	Craftman MediaStation NeXTSTEP in general
Multimedia e-mail	Not Done	NeXTmail
Linking together heterogeneous information networks	Not Done (at least not very well)	NeXT NetInfoManager and DBKit (Obj. Tech..) OTDBKit
Statistical Analysis and Business Forecasting	Mainframe or Mini-based systems (in-house or contracted)	SAS Application System Lotus Improv WingZ

## Detailed Selling Proposition & Solutions

---

### **The Pitch** (same as cover page, but with detail)

Only NeXT provides a powerful, flexible, and cost effective solution for a seamless transition from costly paper and film to a fully-integrated, healthcare information and resource management system that providers like to use.

And NeXTSTEP offers the most advanced platform for developers, vendors, and users of healthcare information systems. It fills the needs of:

- healthcare providers working to integrate clinical and financial data
- any developer of healthcare information systems or related mission critical applications where development time and “usability” are key issues

### **For the Hospital, HMO and Clinic**

- **Enhances quality of care and services delivered**

*Continuous Quality Improvement (CQI) is the “buzzword” in healthcare. CQI protocols generate information to assess performance against other providers. NeXTSTEP solutions can provide these organizations with the basic tools for CQI assessments.*

- **Enhances profitability through reduced costs and increased efficiency**

*Most critical need for hospitals today. [Example—Lab samples are analyzed on a priority basis: Routine or “Stat” (immediate). Routine samples are like standard delivery mail—It gets there when it gets there. Stat samples are like overnight delivery – you pay a lot more, but you always know the status (& speed). Many physicians abuse stat services for convenience not need. A Lab Information System will let physicians track even the Routine samples. This means fewer stat orders. Similar arguments arise for any system with better data management. NeXTSTEP solutions can provide these enhancements and providers will actually use them.]*

- **Provides seamless networking for ease of access into current, disparate information systems, preserving hardware investments**

*Most institutions use computers on an independent departmental basis. These turnkey systems represent a significant investment. NeXTSTEP-based systems offer built-in (and third-party) connectivity solutions. By connecting to current hardware, NeXTSTEP integrates the info while protecting these investments.*

- **Enhances relationships with patients**

*Combine immediate info access, reduced need for repeating administrative data, & potential for an easy to use, multimedia patient education tool and you have happier patients.*

- **Enhances ability to recruit and retain world-class employees and referring physicians, thereby increasing patient retention and market share**

*Top people want a responsive environment. Focus groups have identified that networked information systems provide the services that patients and clinicians want most. [Example: Patients want personalized educational materials; clinicians want to monitor their performance and maximize productivity. With NeXTSTEP solutions, both clinicians and patients can get the customized solutions they need and want most.*

### **For the Clinician**

- **Direct, accurate and reliable access to critical information when and where its needed**

*Clinicians are pressed for time and manage a constantly expanding body of information. Only NeXTSTEP-based systems feature ease of use, real-time responsiveness, easy customizability, and multi-platform connectivity solutions on a true multi-tasking, UNIX workstation to provide information wherever and whenever it is needed.*

- **Improves efficiency and productivity by eliminating redundancy**  
*Needless paperwork accounts for as much as 25% of all healthcare dollars (nearly \$200 billion!) and 35% of the clinician's time. Future healthcare needs demand better data management and analysis tools for outcomes studies. But unless clinicians use these tools themselves, outcomes data will be meaningless. Only NeXTSTEP-based systems have the features that physicians will actually use..*
- **Superior imaging capabilities**  
*While obviously important for radiologists, it is ALSO IMPORTANT TO PROVIDE OTHER PHYSICIANS WITH SUFFICIENT IMAGE DETAIL TO SATISFY ROUTINE APPLICATIONS. Imaging requires high power, high speed communications, and high resolution. Only NeXTSTEP solutions provide these capabilities "out-of-the -box" with an excellent price/performance ratio.*

### *For Educators and Students*

- **Easily customizable multimedia platform that lets students focus on learning and information management instead of memorization**  
*NeXTSTEP-based solutions are ideally suited to the requirements of healthcare information in a teaching environment—development tools, multimedia, networking, processing power and ease of use.*
- **Revolutionary, yet easy-to-use course and reference development tools**  
*Only the NeXTSTEP environment facilitates application development for the broad range of users likely to be encountered in a medical school setting. And "Craftman" & MediaStation look like great authoring tools for the high-end educational materials this market needs.*

### *For the Patient*

- **Empowers patient with personalized information needed to actively participate in their own treatment and make informed decisions**  
*Patients have become passive entities that are merely "treated." Most clinicians don't adequately explain important issues to their patients. Both patients & clinicians know there's something wrong here. NeXTSTEP-based custom apps can provide patients with personalized multi-media information or "take-home" instructions. Patients make informed decisions about their care & comply better with treatments, thereby enhancing their satisfaction.*
- **Enhances continuity of care**  
*A paper-based medical chart can only be in one place at any given time. Patients get frustrated by having to repeat information that should be available to all providers. NeXTSTEP-based systems ensure that no matter where the patient goes, providers will have the same base of information.*

### *Detailed Advantages for use in proposals*

- Open system designed for client-server distributed computing
- Seamless networking solutions for ease of access into and across a heterogeneous network environment, thereby protecting capital investments
- True multimedia capabilities by design including multimedia e-mail
- Intuitive, transparent interface that *physicians will use*
- Handles real-time and historical data simultaneously
- Cost-effective, high-speed, multi-tasking UNIX (standards-based) workstation in the market
- Built-in support for desktop faxing
- NetInfoManager, DBKit and DB Tool Kit ease problems typically associated with building an enterprise-wide information system
- Powerful yet easy development environment cuts time and costs of customizable, mission critical applications

## **Spotlight on Third Party H.I.S. Solutions**

(See NeXT Healthcare Solutions Catalog for more detailed and comprehensive listings)

### ***Clinibase 2000 (Logibec)***

Logibec has been in business since 1982 and currently employes over 70 professionals throughout its North American offices in Montreal, Quebec City, and Boston. They are close to closing a 200 unit deal with their NeXT port. By forming close, collaborative partnerships with each of their customers and providing world-class support policies, Logibec has ensured a high level of customer satisfaction.

- Fully integrated clinical information/patient care management system
  - Can be used at both short-term and long-term in-patient facilities
  - Knowledge base is completely customizable and editable for maximum flexibility
  - Modular design for gradual installations
  - Comparatively minor financial investment
  - Modules include the Clinical Record, Observation and Progress Notes, the Care Encounter Module, the Order Entry and Results Module, the Clinical Profile Module, Quality Care Management, the Care Plan Module, the Record Consultation Module, the Task Management Module, Operational Statistics, the Medical Order Module, and the Knowledge Base.
  - Proven track record and world-class customer support
- Typical Customer Profile:
- Long- and Short-Term Hospitals and Rehabilitation Centers
  - Appreciates the value of multimedia-based open systems for healthcare
  - Desires cost-effective, state-of-the-art technology
  - Requires easy-to-use, customized applications

### ***Oceania Health Care Systems***

Oceania is developing an integrated, universal electronic medical record and won the San Diego Hospice for 50 units as their 1st beta site (they installed their first module early in Sept., '92). The record is a set of core applications, tools and supporting architecture providing the cornerstone for patient care information management. Oceania looks like a long-term winner for HIS, but is NOT looking for or servicing newprospects very actively...therefore, they are NOT very responsive to new deals brought to them.

- Interface designed by and for physicians, nurses and ancillary healthcare personnel
- Core applications include Patient Registration, Multispecialty/Multidisciplinary Physician Notes, Assessment, Plan of Care and Results Reporting.
- Supporting applications and easy to use tools allow for institutional and end-user customization of information content, function, and display



- Designed to be interfaced to most other systems

Typical Customer Profile:

- Desires a clinical information system centered around the patient
- Wants state-of-the-art technology and understands the benefit of open systems
- Understands the opportunity and the risks associated with being on the leading-edge
- Understands the need to involve all staff in the process

### ***OnTrac (Glen Carbon Corp.)***

See next section, “Selling to HIS Vendors and VARs” (page 17)

### ***HealthBase (Trego Systems)***

See next section, “Selling to HIS Vendors & VARs” (page 17)

### ***CaseServ (Trego Systems)***

Trego’s staff represents years worth of corporate and consulting experience with some of the largest HIS vendors in the market. CaseServ is primarily designed for healthcare providers with managed care contracts, but is general enough for case management for any hospital or home health agency.

- Contract Management and Negotiation
- Capitation, Case, and Product Line Management
- Procedural Profiles and Protocols

Typical Customer Profile:

- Hospital with >15% gross revenues from managed care contracts
- Institution has/wants capitation arrangements
- Institution has multiple sites

### ***Tecor Advantage (Tecor, Inc.)***

Tecor Advantage is a medical office and small hospital management software package, integrating business functions, clinical diagnostic functions and peripheral medical applications into a single package that is both easy to use and comprehensive.

- Compatible with pen-based technologies, touch screen input, bar coding, palm top digital assistants, and with 486-based microcomputers.
- Designed to process all of a medical office's in-house data
- Supports automated insurance claims and billing.

Typical Customer Profile:

- Group Practice, Clinic, Ambulatory Care Center, or Small Hospital
- Organization wants to automate clinical and administrative data management functions, or integrate clinical data with existing administrative data
- Desires sophisticated data management and analysis tools



**Competition: Competitive Overview**

**Leading HIS Vendors with Point of Care (POC) capability  
(All mainframe or mini based)**

Company Product Name	Financial Applications	Clinical Applications	Relative Price*	Strengths	Weaknesses
<b>Gerber Alley</b> <i>Precision Alternative</i>	●	○	\$\$\$	Probably the best financials Good Installed Base	Terrible clinicals Clinician's won't use it
<b>Healthquest/HBO</b> <i>CliniPac</i>	●	○	\$\$	Easy to customize Very Inexpensive	Very weak clinicals Physician's won't use it
<b>HDS</b> <i>Ulticare</i>	○	●	\$	Conceptually "paperless" Clinician's like it	Non-existent Financials Not many customers
<b>Meditech</b>	●	○	\$\$	The best price value Can be quickly installed	No flexibility Poorly integrated features
<b>Phamis, Inc.</b> <i>Phamis Lastword</i>	●	●	\$\$	Extremely flexible Great Clinicals	Lack support personnel Relative newcomer
<b>SMS</b> <i>Invision</i>	●	●	\$\$\$\$	"The one to beat" Huge support staff	Have a reputation for "low-balling" on price and underestimating costs
<b>TDS Systems</b> <i>TDS 7000 Series</i>	●	●	\$\$\$\$\$	The best clinicals High rate of clinician use	Financials are moderately weak Slow to release needed upgrades

Strong = ● Moderate = ● Weak = ○

\*Relative Price of NeXT solutions will always be less than mainframes and mini's on a "bang-for-buck" basis.



## ***Selling To HIS Vendors and VARs***

---

### ***The Big Picture***

We NEED one or two big name healthcare VARs for credibility and customer support. It's less clear that we need them for their actual, current products.

The vast majority of hospitals today don't have a clinical information system. Those which DO (typically from one of the established VAR's) have systems designed around outdated mainframe technology and focused on financial aspects of running a hospital, rather than clinical (or integrating both).

*This growing pool of HIS vendors and VARs represents significant opportunities for NeXT.*

This may change quickly. Legislation before Congress and supported by the American Hospital Association will require that all hospitals use computerized clinical information in the near future. With less than 20 major VARs and vendors of these systems, the industry will see significant increases in the number and size of these businesses.

### ***Why Now?***

Competition in this market is just starting to heat up. The most successful vendors will develop a "patient-centered" HIS in a distributed client-server environment. Currently, HIS Vendors and VARs face two persistent problems:

- Clinicians require a transparent interface
- Need to protect current customers' investments in technology

Only NeXTSTEP-based systems solve both of these problems.

### ***NeXT has a compelling message***

NeXTSTEP is the only system available that doesn't force providers to change the style of their work, yet features multi-tasking, integration of data, multimedia capabilities, and an interface that can be customized to look like the "manual" paper tools they use today. During the transition to distributed computing, NeXTSTEP is the best system on which build a new foundation. The standard NeXTSTEP benefits include:

- Out-of-the-box "plug-and-play" networking compatibility
- NetManager, a powerful, easy-to-use tool for managing distributed networks
- DBKit makes building data bridges between existing systems simplistic
- High-speed, high-performance, multi-tasking industry standard UNIX workstation

*Increased competition is forcing some of these businesses to increase their R&D spending. This could create a back-door entrance for NeXTSTEP to become a front-end technology.*

### ***HIS Vendors and VARs: How to pick them out in a crowd.***

*The typical HIS Vendor or VAR is a small to medium size privately-held corporation with 30 to 500 employees (although some like SMS, have more than 4,000!) and anywhere from 3 to 200 systems installed or contracted at a cost of between \$300,000 to \$6 million each. Existing systems are usually mainframe or mini based (multiple vendors) with dumb terminals or PCs as terminal devices. Those who will ultimately succeed are migrating to high-speed workstations in a client/server environment.*



## ***Requirements of the Target***

In the future, HIS vendors will facilitate hospitals' expansion into internetworked regionally-based enterprises. Next generation healthcare information systems will:

- run in a heterogenous, distributed client-server environment on fault-tolerant servers
- be capable of real-time data processing and oriented towards multimedia display
- be hidden beneath a transparent user interface which, itself, is totally end-user customizable and can "learn" about individual users and their preferences
- be equipped with superior data analysis tools and applications
- have strictly regulated and controlled systems access
- have a superior development environment for "mission critical" custom applications
- be based on object-oriented databases

As the only "mere-mortal" workstation that's powerful enough to simultaneously handle real-time and historical data processing, NeXTSTEP can help them get started now.

## ***Finding the Target***

Get list of ***Healthcare VAR Prospects*** (with contacts & phone numbers) in separate document wherever you got this guide. As usual, sell high in the organization. CEO, CFO, VP of R & D, Director of Business Development, and VP of Engineering are the all good contacts since the decision to got with NeXT will probably be an overall decision to move toward client-server systems.

## ***Requirements & Solutions***

<b>Critical Requirements</b>	<b>What They Use Now</b> (Most common methods)	<b>NeXT Provides</b> (See "Solution" section)
Relational Database for Managed Care, Capitation, & Multi-site Org's	Rarely Done (most data still in proprietary formats)	Trego HealthBase
High-Speed Network Connectivity	Various expensive & hard to install and manage pdts.	Built-in NeXT high-speed network connectivity
Merging of Real-Time and Historical Data	Not Done	DBKit
Transparent User Interface	Not Done	NeXTSTEP Glen Carbon ClickText
Easy-To-Use Data Analysis Tools	Data is off-loaded to PCs for use with other apps	SAS Application System Lotus Improv, WingZ
High-Level Security	Passwords; Card Keys.	Oceania

Critical Requirements	What They Use Now (Most common methods)	NeXT Provides (See “Solution” section)
Superior Development Environment	Cobol, Increasing use of straight C	NeXTSTEP: IB, DBKit App Kit, Sound Kit...

## ***Solution Definition***

---

### ***The Pitch (slight variation to Pitch for Providers)***

*Only* NeXTSTEP provides the most powerful, flexible, and cost effective solution for a seamless transition from costly paper and film to a fully-integrated, healthcare information and resource management systems that Providers will actually use.

*And* NeXTSTEP offers the most advanced solutions for developers, vendors, and VARs of healthcare information systems. It fills the needs of any developer of healthcare information systems or related mission critical applications where development time, heterogeneous data access and “usability” are key issues.

### ***Detailed Advantages of NeXTSTEP for HIS vendors***

- Open system designed for client-server distributed computing
- True multimedia capabilities by design, including multimedia e-mail
- An intuitive, transparent interface that *even physicians will use*
- Built-in high-speed network connectivity architecture that off-loads I/O intensive tasks from the CPU to a peripheral, controller chip
- Cost-effective high-speed multi-tasking UNIX workstation in the market
- Smooth integrated cooperation with other apps (even shrink-wrapped apps)
- NetInfoManager, DBKit, Schema-E and O.T. DBToolkit ease problems typically associated with building an enterprise-wide information system
- Powerful yet easy development environment cuts time and costs of mission critical applications

### ***Third Party Solutions***

Most potential VARs have their own apps. But the following are great ways for a VAR to be “in business” in the NeXT world almost immediately. (See [NeXT Healthcare Solutions Catalog](#) for detailed listings)

#### ***OnTrac (Glen Carbon Corp.)***

The OnTrac patient record system is a complete healthcare record designed to be scalable for any environment from the “solo” practitioner in a rural community to multi-specialty group practices to long-term and short-term hospitals.

- Unified Database supports clinical and financial data in any provider setting

- Features ClickText Interface (see below)
- All data variables are objects so data is captured in a machine-intelligent manner and can take advantage of true multitasking capabilities
- Sophisticated tools for “on-the-fly” data analysis and “what-if” hypothesis testing

### ***ClickText (Glen Carbon Corp.)***

ClickText is a rapid data entry system that adapts to and can be easily modified to each user. The ClickText environment appears to be regular, english-language sentences (like in a letter or dictated summary) except the “words” are object variables that represent clinical findings. Double-clicking or tapping on the ClickText Object brings up other windows of related information.

- Intuitive and easy to use—does not require typing
- Tested and approved by more than 200 physicians and nurses
- Easily customized by and learns from end-user

### ***HealthBase (Trego Systems)***

HealthBase is the only relational database *model* designed to proactively support the rapidly changing managed care contracting requirements of healthcare providers. It saves 2+ man years of development time and features built-in links between data subtypes for automatic report generation, including user-definable profiles and protocols. By licensing HealthBase, a software systems developer will save significant development time and personnel while leveraging a significant advantage in the marketplace. HealthBase is also ideally suited for provider organizations that are moving to a client-server environment and are developing applications in-house.

- Supports managed care, capitation, and ambulatory care settings
- Designed for multi-provider and multi-entity organizations
- Can be used internationally
- Compatible with most DBMSs, including Sybase, Oracle, DB2, Informix, Ingres, Rdb/VMS SQL, and Generic Relational

### ***Lotus Improv, Lotus Real-Time, OT Provide***

Just like Financial Market: Improv is a revolutionary spreadsheet for NeXTSTEP that allows for a highly flexible approach to sophisticated data analysis. With its unique dynamic views capability, Improv allows users to quickly and easily analyze data in different ways without manually rebuilding their spreadsheets.

- Flexible dynamic views allow data to be arranged to compare relationships
- Uses plain English formulas
- Compatible with Lotus 1-2-3 on multiple platforms
- With OT Provide or Lotus Real-Time, Improv becomes a flexible front end to data

### ***Oceania Healthcare Systems***

See Detailed Advantages Section of main Selling Guide (page 13)



## Appendix A: Definitions

---

- **Provider:** any individual or organization that provides healthcare services (e.g., physician, nurse, hospital administrator, healthcare insurance company, etc.).
- **Doctor:** Any individual who has earned a doctorate; this includes an MD, Ph.D., and D.Sci., among others. “*Physician*” is reserved only for MDs
- **Nurse Practitioner (NP):** these are nurses that are licensed to diagnose and treat patients, to varying degrees (based on state laws), independently of (but supervised by) a physician. NPs have proven very valuable in busy medical practice settings by reducing the amount of time that a physician has to spend with any given patient.
- **Physician Assistant (PA):** These are people (not necessarily nurses) that assist the physician while he is examining, or performing a procedure on a patient.
- **Practice Manager:** Typically, an individual or a company that runs the business operations (e.g., scheduling, billing, etc.) of a medical practice.
- **Practice Guidelines** (or Practice Parameters): these are guideline for practicing medicine appropriately and have been developed, for the most part, by specialty societies, third-party payers, and governmental agencies. Currently there are about 1300 in existence and at least another 200 under development. For most doctors, its becoming impossible to keep up-to-date.
- **Managed Care** is the management of cost and quality so both are optimized. Often interpreted as *full care for a single fixed price* (as in HMO’s, like Kaiser)
- **Resource-Based Relative Value Scale (RBRVS):** IMPORTANT—Guideline defining how much money a physician or institution is reimbursed for any given treatment (Currently just for Medicare patients). The key effects:
  - *Reduced payments for some services.*
  - *Requires a new coding system for treatments*
  - *Participating providers are payed more then non-participating providers*
  - *Drug price limits inside the hospital*



## **Appendix B: North American Medical Schools**

**(includes Puerto Rico & Canada)**

---

### **United States**

#### *Alabama*

*University of Alabama School of Medicine (Birmingham)*  
*University of South Alabama College of Medicine (Mobile)*

#### *Arizona*

*University of Arizona College of Medicine (Tucson)*

#### *Arkansas*

*University of Arkansas College of Medicine (Little Rock)*

#### *California*

*University of California (UC) at*  
*Davis School of Medicine (Davis)*  
*Irvine California College of Medicine (Irvine)*  
*Los Angeles School of Medicine (Los Angeles)*  
*San Diego School of Medicine (La Jolla)*  
*San Francisco, School of Medicine (San Francisco)*  
*Loma Linda University School of Medicine (Loma Linda)*  
*University of Southern California School of Medicine (Los Angeles)*  
*Stanford University School of Medicine (Palo Alto)*

#### *Colorado*

*University of Colorado School of Medicine (Denver)*

#### *Connecticut*

*University of Connecticut School of Medicine (Farmington)*  
*Yale University School of Medicine (New Haven)*

#### *District of Columbia (Washington, D.C.)*

*Georgetown University School of Medicine*  
*George Washington University School of Medicine and Health Sciences*  
*Howard University*

#### *Florida*

*University of Florida College of Medicine (Gainesville)*  
*University of Miami School of Medicine (Miami)*  
*University of South Florida College of Medicine (Tampa)*

#### *Georgia*

*Emory University School of Medicine (Atlanta)*  
*Medical College of Georgia School of Medicine (Augusta)*  
*Morehouse School of Medicine (Atlanta)*  
*Mercer University School of Medicine (Macon)*

#### *Hawaii*

*University of Hawaii, John Burns School of Medicine (Honolulu)*

#### *Illinois*

*University of Chicago, Pritzker School of Medicine (Chicago)*  
*University of Health Sciences, The Chicago Medical School (North Chicago)*  
*University of Illinois College of Medicine (Chicago)*  
*Loyola University of Chicago, Stritch School of Medicine (Maywood)*  
*Northwestern University Medical School (Chicago)*  
*Rush Medical College (Chicago)*  
*Southern Illinois University School of Medicine (Springfield)*

#### *Indiana*

*Indiana University School of Medicine (Indianapolis)*

*Iowa**University of Iowa College of Medicine (Iowa City)**Kansas**University of Kansas College of Health Sciences and Hospital (Kansas City)**Kentucky**University of Kentucky College of Medicine (Lexington)**University of Louisville School of Medicine (Louisville)**Louisiana**Louisiana State University School of Medicine in New Orleans (New Orleans)**Louisiana State University School of Medicine in Shreveport (Shreveport)**Tulane University School of Medicine (New Orleans)**Maryland**John Hopkins University School of Medicine (Baltimore)**University of Maryland School of Medicine (Baltimore)**Uniformed Services University of the Health Sciences School of Medicine (Bethesda)**Massachusetts**Boston University School of Medicine (Boston)**Harvard Medical School (Boston)**University of Massachusetts Medical School (Worcester)**Tufts University School of Medicine (Boston)**Michigan**Michigan State University College of Human Medicine (East Lansing)**University of Michigan Medical School (Ann Arbor)**Wayne State University School of Medicine (Detroit)**Minnesota**Mayo Foundation Medical School (Rochester)**University of Minnesota Medical School at**Duluth**Minneapolis**Mississippi**University of Mississippi School of Medicine (Jackson)**Missouri**University of Missouri at**Columbia School of Medicine (Columbia)**Kansas City School of Medicine (Kansas City)**Saint Louis University School of Medicine (Saint Louis)**Washington University School of Medicine (Saint Louis)**Nebraska**Creighton University School of Medicine (Omaha)**University of Nebraska College of Medicine (Omaha)**Nevada**University of Nevada School of Medical Sciences (Reno)**New Hampshire**Dartmouth Medical School (Hanover)**New Jersey**University of Medicine and Dentistry (Newark)**Robert Wood Johnson Medical School (Piscataway)**New Mexico**University of New Mexico School of Medicine (Albuquerque)**New York**Albany Medical College of Union University (Albany)**Albert Einstein College of Medicine of Yeshiva University (New York)**Columbia University College of Physicians and Surgeons (New York)**Cornell University Medical College (New York)*

*Mount Sinai School of Medicine (New York)*  
*New York Medical College (Valhalla)*  
*New York University School of Medicine (New York)*  
*University of Rochester School of Medicine and Dentistry (Rochester)*  
*State University of New York (SUNY) at*  
*Buffalo School of Medicine (Buffalo)*  
*Downstate Medical Center College of Medicine (Brooklyn)*  
*Stony Brook Health Sciences Center (Stony Brook)*  
*Syracuse Health Sciences Center (Syracuse)*

*North Carolina*

*Bowman Gray School of Medicine (Winston-Salem)*  
*Duke University School of Medicine (Durham)*  
*East Caroline University School of Medicine (Greenville)*  
*University of North Carolina School of Medicine (Chapel Hill)*

*North Dakota*

*University of North Dakota School of Medicine (Grand Forks)*

*Ohio*

*Case Western Reserve University School of Medicine (Cleveland)*  
*University of Cincinnati College of Medicine (Cincinnati)*  
*Medical College of Ohio at Toledo (Toledo)*  
*Northeastern Ohio Universities College of Medicine (Rootstown)*  
*Ohio State University College of Medicine (Columbus)*  
*Wright State University School of Medicine (Dayton)*

*Oklahoma*

*University of Oklahoma College of Medicine (Oklahoma City)*

*Oregon*

*University of Oregon Health Sciences Center School of Medicine (Portland)*

*Pennsylvania*

*Hahnemann University School of Medicine (Philadelphia)*  
*Jefferson Medical College of Thomas Jefferson University (Philadelphia)*  
*The Medical College of Pennsylvania (Philadelphia)*  
*Pennsylvania State University College of Medicine (Hershey)*  
*University of Pennsylvania School of Medicine (Philadelphia)*  
*University of Pittsburgh School of Medicine (Pittsburgh)*  
*Temple University School of Medicine (Philadelphia)*

*Rhode Island*

*Brown University Program In Medicine (Providence)*

*South Carolina*

*Medical University of South Carolina (Charleston)*  
*University of South Carolina (Columbia)*

*South Dakota*

*University of South Dakota School of Medicine (Sioux Falls)*

*Tennessee*

*East Tennessee State University Quillen College of Medicine (Johnson City)*  
*Meharry Medical College School of Medicine (Nashville)*  
*University of Tennessee College of Medicine (Memphis)*  
*Vanderbilt University School of Medicine (Nashville)*

*Texas*

*Baylor College of Medicine (Houston)*  
*Texas A&M University College of Medicine (College Station)*  
*Texas Tech University School of Medicine (Lubbock)*  
*University of Texas at*  
*Southwestern Medical School at Dallas (Dallas)*  
*Medical School at Galveston (Galveston)*

*Houston Medical School (Houston)*  
*Medical School at San Antonio (San Antonio)*

**Utah**

*University of Utah School of Medicine (Salt Lake City)*

**Vermont**

*University of Vermont College of Medicine (Burlington)*

**Virginia**

*Eastern Virginia Medical School (Norfolk)*

*Medical College of Virginia (Richmond)*

*University of Virginia School of Medicine (Charlottesville)*

**Washington**

*University of Washington School of Medicine (Seattle)*

**West Virginia**

*Marshall University School of Medicine (Huntington)*

*West Virginia University School of Medicine (Morgantown)*

**Wisconsin**

*Medical College of Wisconsin (Milwaukee)*

*University of Wisconsin Medical School (Madison)*

**Puerto Rico**

*Ponce School of Medicine (Ponce)*

*University of Puerto Rico School of Medicine (San Juan)*

*Universidad Central Del Caribe School of Medicine (Bayamon)*

**Canada****Alberta**

*University of Alberta Faculty of Medicine (Edmonton)*

*University of Calgary Faculty of Medicine (Calgary)*

**British Columbia**

*University of British Columbia Faculty of Medicine (Vancouver)*

**Manitoba**

*University of Manitoba Faculty of Medicine (Winnipeg)*

**Newfoundland**

*Memorial University of Newfoundland Faculty of Medicine (St. John's)*

**Nova Scotia**

*Dalhousie University Faculty of Medicine (Halifax)*

**Ontario**

*McMaster University School of Medicine (Hamilton)*

*University of Ottawa Faculty of Medicine (Ottawa)*

*Queens University Faculty of Medicine (Kingston)*

*University of Toronto Faculty of Medicine (Toronto)*

*University of Western Ontario Faculty of Medicine (London)*

**Quebec**

*Laval University Faculty of Medicine (Quebec City)*

*McGill University Faculty of Medicine (Montreal)*

*Université de Montréal Faculty of Medicine (Montreal)*

*Université de Sherbrooke Faculty of Medicine (Sherbrooke)*

**Saskatchewan**

*University of Saskatchewan College of Medicine (Saskatoon)*

## ***Appendix C: Trade Shows/Conferences:***

---

### ***SCAMC***

Symposium on Computer Applications in Medical Care: Hosted by American Medical Informatics Association (AMIA). Attendance *about 3,000*. Annually in November.

*1992: November 8 - 11, Baltimore Convention Center, Baltimore, MD*

### ***HIMSS***

Healthcare Information Management Systems Society: Hosted by the HIMSS Society of American Hospital Association (AHA). Attendance *about 3,000*. Annually in Feb/Mar.

*1993: March 1 - 4, San Diego, CA*

### ***RSNA***

Radiological Society of North America: Hosted by the RSNA. Attendance *about 40,000*. Annually in December at McCormick Plaza in Chicago (the only place in the United States that's big enough to hold all the exhibits).

*1992: November 30 - December 4, McCormick Plaza, Chicago, IL*

### ***AHIMA***

American Health Information Management Association (formally, the American Medical Record Association (AMRA)): hosted by the AHIMA.

*1992: October 11 - 16, Cerventes St. Louis Convention Center, St. Louis, MO*

### ***QQPHS***

Quest for Quality and Productivity in Health Services: Hosted by Society for Health Systems (SHS) of the Institute of Industrial Engineers (IIE) and HIMSS (see above).

*1992: September 20 - 23, The Washington Hilton & Towers, Washington, DC*