



**Creating Preeminent Online  
Communities for Professional  
Medical Societies**

<http://www.medbiq.org/>

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## **A New Era for Healthcare**

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The Internet is transforming the healthcare industry at an unprecedented pace. New information resources and new ways of conducting business have begun to change well-established patterns of physician-to-patient and physician-to-physician communication.

This rapid innovation threatens to leave behind one of the strongest current networks for physicians: professional medical societies. These societies have created strong networks of physicians that are devoted to professional education and advancement. Professional societies link their members through information resources – including conferences, seminars, and printed and electronic information – and provide a common voice of advocacy for their professionals and the patients they serve. Because of their non-profit status, these entities have difficulty raising the capital required to keep pace with Internet innovations, yet their presence and contribution in the new era of online healthcare is essential.

## **The Opportunity: Online Communities**

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By eliminating the barriers of distance and time, the Internet has from its inception enabled like-minded groups to flourish in online communities. These communities have thrived as the online technology has evolved from modems, used by the original WELL community in the San Francisco Bay area and by thousands of bulletin board systems, to UseNet newsgroups and Web-based discussion forums, to the most recent instant messaging and peer-to-peer file sharing systems. Online community participation fulfills a fundamental and powerful social dynamic, echoing the value that "real" communities provide when people gather in the same physical place.

Medical societies already aggregate groups of professionals bound together by a shared purpose. To continue to be successful, societies must evolve to keep pace with the needs of their members. The Internet offers medical professionals an outstanding opportunity to meet and stay connected with like-minded colleagues. For societies, this translates into an opportunity to create vigorous online communities that attract and sustain members in ways not previously imagined.

Virtual communities will provide societies with the chance to better understand their members' needs, markedly enhancing their involvement and loyalty. There will be new opportunities to interact directly with society leaders as well as other members, creating an engaging and rewarding online experience. As societies within a particular specialty expand their online activities, there will be new opportunities for inter-society collaboration through jointly hosted communities. Societies willing to embrace this new model achieve significant economies of scale, expanding their geographic reach and enabling a new level of global collaboration.

## The MedBiquitous Initiative

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MedBiquitous is a new initiative, guided by Johns Hopkins Medicine in partnership with professional medical societies, to enable professional medical societies to create preeminent online communities. These communities will provide a vast array of educational resources and collaborative technologies that enhance the training, expertise, and quality of care provided by medical professionals around the world.

To enable professional societies to build these online communities, MedBiquitous will offer a "community of communities," a society of professional medical societies and interested government and industry colleagues, devoted to developing a collection of shared Internet resources that are specifically designed for professional medical societies. These resources will include 1) technical standards, in the form of an XML (extensible markup language) vocabulary, and 2) a suite of flexible Java software components that can be combined together to create online communities.

XML is an Internet standard that facilitates the exchange of structured data over the Internet. By creating common data models, called schemas, XML makes it easier for Web systems to be interoperable. But XML only becomes useful when there is agreement within an industry on a common syntax of XML. MedBiquitous will provide the vehicle for a consensus-building process of defining an XML vocabulary for professional medical societies. This XML vocabulary will support a wide range of activities including organizational membership and participation, specialty certification, continuing education, online meetings, scientific abstracts, journal article submission and administration, clinical trials, and data registries for tracking medical outcomes. As is the case with other industries (travel, finance, aerospace, music), the creation of these XML standards will allow the development within professional medicine of interoperable Web software tools and services.

MedBiquitous will also create a suite of modular, flexible, and reusable Java software components that enable online collaboration for medical professionals. This software suite will implement the MedBiquitous XML vocabulary in working applications that enable societies to conduct business and allow physician members to collaborate, communicate, and access greater depths of medical information. As innovations in electronic healthcare technology emerge, MedBiquitous will work with societies to identify new software offerings that could be created to take advantage of these technologies. With MedBiquitous tools, societies can maintain their preeminence as educational leaders within their medical specialty.

### Professional Society Software Tools

MedBiquitous will offer member societies:

- Membership relationship management tools
- Document/content management
- Abstract submission and administration
- Journal article submission and administration
- Online courseware and certification (examination) tools
- Online survey (market research) tools
- Discussion forums and instant messaging
- Clinical registry, outcomes, and error tracking
- Career center (job board) utilities
- Online meeting planners and exhibit halls

## **A Triad Approach**

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To enable the development and deployment of these Internet resources, MedBiquitous will embrace what is done best by non-profit societies, universities, government, and industry, binding them together into a triad of interdependent parts: the Consortium, the Laboratory, and the Services Company.

**The MedBiquitous Consortium** is an international group of nonprofit, commercial, and governmental members who share an interest in creating technical and operational standards for high-quality online medical communities. The Consortium will undertake the consensus-building process that is necessary for defining an XML vocabulary and software requirements for these online communities. The standard building process begins when a Consortium member identifies an area of interest that requires agreement within the industry and submits a project proposal. After the project proposal is submitted, a Working Group of interested members and invited experts is formed to propose a specification for the new XML definition or software requirement. After a period of review, the specification is put to a vote by the entire membership. Approved XML specifications become publicly available to encourage dissemination throughout the industry of professional medicine. Consortium members will be able to view and comment on the entire standards development process, enabling them to use the emerging standards within their own Web resources. In addition, the Consortium will work with existing standards organizations whose work compliments the work of the Consortium. Through the Consortium, members can create an integrated and coordinated approach to medical education and professional development and help to shape standards for the entire industry.

**The MedBiquitous Laboratory** develops modular, reusable Java software components based upon the XML architecture and software requirements developed by the Consortium. These components can then be built into powerful Internet tools for professional medical societies. The Laboratory will play a vital role in the creation of next-generation Internet applications for professional medical societies and will have projects centered on specific thematic interests. The most important project for the Consortium will be a software suite called Professional Collaborators, which will provide core software offerings for online medical communities. Once an application is complete, source code and documentation will be made available to Consortium members for use within their organization. This open-source access to the software code will allow members full opportunity to customize and enhance it for their own needs.

**MedBiquitous Services** is a company designed to assist societies in the creation of online communities. The Services Company will be expert in the deployment of Consortium code and in assisting societies with the technical and operational tasks needed to foster vigorous online communities. The Services Company will provide a highly reliable and secure hardware and network infrastructure, which will be increasingly important for sensitive communications. In addition to infrastructure and software hosting, the Services Company will provide a range of consulting and support services, which are tailored to the needs of professional medical societies. Consortium members are not required to use the Services Company to deploy the resources provided by the Consortium, but the company has been created within the MedBiquitous triad to ensure that an excellent commercial partner is available.

## Consortium Benefits

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MedBiquitous has been designed to foster widespread collaboration and innovation across medicine. Because it is an initiative established by nonprofit entities for nonprofit entities, the MedBiquitous Consortium structure ensures that professional medical society interests are served. The inclusion of commercial participants in the Consortium ensures industry use and support of the common technical standards. Through Consortium participation, societies can fully deploy the Internet manifestation of their organization without incurring on their own the cost of developing high-end Web solutions.

Consortium membership will offer a number of specific benefits to professional societies:

- Open-source access to software tools for creating advanced online communities
- Open-source access to software tools for facilitating membership management tasks
- Participation in the standards-creation process, thus ensuring that standards meet society needs
- Access to a preferred Web services company that is able to cost-effectively scale Web solutions across many professional medical communities (Optional)

The collaborative nature of MedBiquitous will lead many societies to join together in online specialty networks, which allow societies to collaborate with similar specialty organizations around the world. One example of a network is CTSNet, <http://www.ctsnet.org/>, which is a network of 37 cardiothoracic surgical societies. MedBiquitous Services will offer assistance to societies that wish to create this kind of global network. Members that choose to join together in these networks will be able to:

- Create comprehensive portals of access to information within a particular specialty
- Build a shared global community of specialists with a common interest
- Facilitate multi-society collaboration on a variety of projects
- Create new opportunities for business-to-business transactions and revenue related professional member services
- Achieve economies of scale for Web hosting services

## More Information

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If you are interested in joining the MedBiquitous Consortium, or you would like more information, please visit our website at <http://www.medbiq.org/>. You can also contact Dr. Peter Greene ([pgreene@jhu.edu](mailto:pgreene@jhu.edu)), Executive Director of the MedBiquitous Consortium.

**Address:** Johns Hopkins School of Medicine  
720 Rutland Avenue, Turner 76  
Baltimore, MD 21205-2196 USA

**Phone:** 410-955-2979