The Practice of Informatics

White Paper ■

Strategic Planning Activities of the American Medical Informatics Association

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Abstract The American Medical Informatics Association (AMIA) has begun the process of long-range strategic plan development. The AMIA Board of Directors established an Ad Hoc Strategic Planning Task Force, with the goal of initiating such planning in November 1992. In January 1993, the Task Force convened a group of AMIA members in order to develop an initial set of goals and objectives. The group consisted of past and present AMIA Board members, AMIA Committee chairpersons, representative AMIA Working Group chairpersons, the AMIA Executive Director and members of the AMIA office staff, and a number of AMIA members-at-large. The group created a draft strategic plan, which was refined by the Task Force after circulation among two focus groups and through a mailing to the AMIA membership. This report of the AMIA strategic planning process is intended to create a historical record and to stimulate further discussion of a working plan that will evolve over time. AMIA will continue the strategic planning process through its Ad Hoc Strategic Planning Committee as it begins to implement aspects of the strategic plan over the next several years.

■ **J Am Med Informatics Assoc.** 1994;1:263–271.

This paper describes both the process and the result of ongoing strategic planning efforts by the American Medical Informatics Association (AMIA). The current version of the evolving plan is included. The paper is intended to communicate the overall framework of the plan; to provide examples of how specific activities related to the plan might be carried out; to help the AMIA membership to prioritize components of the plan; and to identify outstanding issues.

Environment and Setting

The AMIA Board of Directors voted in November 1992 to develop a strategic plan for the organization. This action came at a time when the importance of information technology for health care had been recognized by an increasing proportion of health care professionals and the public. The incoming Executive Branch of the US government had stated that health care reform would be a priority. The Institute of Medicine, in 1991, had issued a report[1] that emphasized the importance of the computer-based patient medical record. Concurrent efforts within the government and commercial sectors had placed a high priority on high performance computing and communication (HPCC) and on establishing a national information infrastructure (NII).

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Received for publication: 11/16/93; accepted for publication: 1/19/94.

Table 1 ■

Timeline of Strategic Planning Activities (Commencing November 1992)

Month	Activity
0	Charge to Task Force by AMIA Board of Directors
1–2	Planning for retreat
2	Initial drafts in advance to retreat attendees
3	Retreat
4	Feedback and synthesis
6	Focus groups
9	Membership mailing
9–10	Commentaries by members
11–12	Collation and analysis of responses
13	Preparation of report summarizing process and results (this paper)

The AMIA Board decided to create a strategic plan based on a number of additional specific factors. First, AMIA had never had a strategic plan of its own. AMIA had been created two years earlier through the merger of the American Association of Medical Systems and Informatics, the American College of Medical Informatics, and the Symposium for Computer Applications in Medical Care, which had their own separate sets of objectives. Second, AMIA had experienced a period of rapid growth. Its membership had grown from an initial 800 members at its inception, to 1,500 and then 2,200 members at its first two anniversaries. This presented both a challenge to better organize AMIA's activities and an opportunity to draw on the membership for improving AMIA's activities. Third, medical informatics was becoming increasingly important to a number of other national organizations, and this presented an opportunity for increased collaboration. For example, the Medical Library Association (MLA), the American College of Physicians (ACP), and the American Nursing Association (ANA) had each recently increased their programs for medical informatics, many in conjunction with AMIA. The question of how AMIA could best interact with other organizations with an interest in informatics was raised. Fourth, AMIA had a tradition of excellence with respect to academic and scientific aspects of medical informatics, but members had felt that AMIA should encourage excellence in pragmatic areas as well—especially regarding the health-care information technology needs of single practitioners and other end-users, of patients, and of corporate entities. Fifth, efforts at standardization were accelerating in several areas related to medical informatics, including imaging, health-care information systems, coding of health insurance forms, and bibliographic records. Members recognized that standardization efforts should be carried out in a socially responsible fashion by professionals knowledgeable in the field. This presented an opportunity for AMIA to work with individuals and organizations to foster such an approach. (See the AMIA position paper addressing the issue of standards[2].) Finally, AMIA represented the United States within the International Medical Informatics Association (IMIA). All of these factors were seen as opportunities that made it desirable for AMIA to define its goals and priorities through an AMIA Strategic Plan.

Planning Process

Task Force

The Board of Directors created an Ad Hoc Strategic Planning Task Force* to carry out the initial work of developing a strategic plan.

Nomenclature

We will now define the terms used in the AMIA strategic planning process. (See references 3 and 4 for general discussions of the methodologies of long-range strategic planning.)

The Task Force focused initially on proposing a *vision* for AMIA. This is intended to serve as a primary succinct statement of what AMIA aims to be in the long-term.

A *mission* statement is an articulation of the overall range of purposes of the organization, the pursuit of which would realize the vision. A mission statement was part of the AMIA Policy Manual developed at the time the organization was created. Alternatives were considered.

Goals are statements of various aims for the organization that together comprise its mission. These are long-range or strategic in nature and are usually considered to extend at least three to five years into the future, typically five years or longer. The goals were the primary focus of the Task Force effort.

Once the goals are agreed upon, shorter-term *objectives*, or tactics, need to be identified that will enable the goals to be achieved. Objectives address immediate actions or those with a time frame of one to five years, and are measurable steps toward a goal.

*The Ad Hoc Strategic Planning Task Force was chaired by the author of this paper, Robert A. Greenes, MD, PhD. Other members included Marion Ball, EdD, Lawrence C. Kingsland, PhD, Clement J. McDonald, MD, Randolph A. Miller, MD, Gail E. Mutnik, MPA, and Rita Zielstorff, RN, MS.

While we expected those to be developed and refined over time, we posited a number as examples to illustrate possible ways of approaching various goals.

Activities

The development of the strategic plan involved a number of activities, which are indicated by a timeline in Table 1 and which are described in this section.

Planning for the Retreat

The first activity of the Task Force was to organize a retreat that would develop a draft of the strategic plan. To make this retreat maximally effective, the Task Force addressed the composition of the retreat, the timing, the duration, the approach to be carried out, and the preparatory work to be done. The retreat was to last a day and a half, to allow time for group accommodation and focusing, for thought and discussion, and for recapitulation. The Task Force invited all past and present AMIA Board members, all AMIA Committee chairpersons, three representatives from among the AMIA Working Group chairpersons, and two randomly selected AMIA members-at-large.

Initial Drafts

The preparatory work of the Task Force consisted of creating initial drafts of vision and mission statements, and a set of categories of possible goals, with examples of objectives for each. These were refined by electronic mail among Task Force members, and then circulated in advance to retreat attendees.

One of the Task Force members (RZ) developed a provocative mission statement to encourage discussion at the planned retreat. This statement was generally accepted, as a point of departure for commentary, by the other Task Force members. The purpose of the statement was not to endorse the positions it proposed, per se, but to stimulate participants to take new or different approaches to their thinking about AMIA and potential roles for AMIA:

> In five years, I want to see AMIA accepted as the PREMIER organization for health-care informatics in America; legislators will not even think of drafting legislation that has anything to do with electronic records without asking for AMIA's views; no professional organization will even consider certifying its members in informatics without asking for AMIA's input; no group will even begin drafting or approving standards without asking for AMIA's participation.

Conduct of the Retreat

Thirty individuals participated in the planning retreat, chosen, as noted, from past and present AMIA Board members, AMIA Committee chairpersons, selected AMIA Working Group chairpersons, and members-at-large. Participants were invited to set goals and objectives that could be molded into a draft strategic plan by the Ad Hoc Strategic Planning Task Force. During an initial, general group discussion, consensus was reached on a draft set of goal categories. Next, attendees were asked to subdivide into small groups, each of which was to focus on one of the goal categories and to identify subgoals and example objectives for that category. Following the small group sessions, the attendees reconvened as a single group and presented each of the small group's deliberations. Large sheets of paper with the lists produced by each group were mounted around the room, and as the discussion of each category proceeded, the lists were modified and refined.

Feedback and Synthesis

Following the retreat, the Ad Hoc Strategic Planning Task Force synthesized the list and categories delineated at the retreat and circulated, by electronic mail, a draft document to attendees for their comments. The author further refined these to produce a draft strategic plan, which is reproduced in the next section.

Focus Groups

The Task Force decided to hold two focus-group sessions in order to evaluate how others would interpret the draft plan, and to identify any significant omissions. As a matter of convenience, participants were selected at random from among the individuals who had preregistered for the 1993 AMIA Spring Congress in St. Louis. The focus groups each consisted of AMIA members and nonmembers; the first consisted of nine individuals (primarily physicians), and the second of eight individuals (primarily non-physicians). The AMIA Executive Director, Gail Mutnik, served as the focus-group leader, as she had previous experience and training using focus groups. General agreement with the goals was expressed in the focus groups, and no major gaps were identified.

Participants expressed interest in the potential for regional chapters within AMIA, and emphasized the need to embrace nonacademic as well as academic individuals within the membership.

Membership Mailing and Solicitation of Comments

The draft plan was revised once again by the author and was distributed by the AMIA office to all AMIA members, with a cover letter requesting that all comments, positive or negative, be returned by fax, mail, or electronic mail.

Collation and Analysis of Responses

The responses were collated and are presented later in this paper.

Publication of Plan with Membership Commentary

The present paper represents this activity.

Ongoing Refinement

AMIA has decided to continue the planning process via an ongoing Ad Hoc Strategic Planning Committee.

Draft Strategic Plan

I. **Mission Statement**. The mission of the American Medical Informatics Association (as stated in its Policy Manual) ". . . to advance the public interest through charitable scientific, literary, and educational activities." AMIA should represent everyone involved in medical informatics, including scholarly and operational or applied systems constituencies.

II. **Statement of Goals**. The Task Force identified four major goals. Each has a name; the names are enclosed in parentheses following the statement of each major goal. Illustrative examples given with each goal are for clarification of the intent of the associated goal. The examples do not represent decisions that have been made regarding implementation of the goals.

A. AMIA should promote development of medical informatics as a recognized discipline and profession (informatics goal)

A.1. Create and support a cadre of individuals capable of addressing local, regional, and national medical informatics needs

(a) Determine medical informatics needs in relation to required skills
Example: Measure formal informatics training program output, e.g., by recurring surveys of:
—Training programs
—Jobs in informatics and who fill them
—Characterization of the match between skills taught and skills needed

(b) Develop and conduct high-quality educational programs to meet identified needs
Example: Promote creation of additional degree and other training programs as required:
—predoctoral
—postdoctoral
—short courses: beginners, advanced

(c) Certify the competencies of individuals in medical informatics

(d) Provide peer recognition within AMIA of achievement in medical informatics
Examples: American College of Medical Informatics fellowship election; awards

A.2. Foster high-quality scientific activities in medical informatics

(a) Promote informatics research support

(b) Monitor sources and amounts of informatics research support (government and private)

(c) Communicate scientific results of medical informatics research studies
Examples: Meetings; publications

(d) Aid members in research and writing skills

B. AMIA should help solve health-care problems by promoting research, development, and diffusion of medical informatics (societal goal)

B.1. Identify and prioritize problems in health care amenable to medical informatics solutions
Examples: Working conferences; white papers

B.2. Promote the development and application of appropriate medical informatics solutions to resolve problems in health care and health sciences and in institutions involved in these activities

B.3. Participate in the solution of health-care information technology problems
Examples: Provide a clearinghouse for informatics consulting; create working groups to answer applied medical informatics questions (e.g., "hotline")

B.4. Evaluate emerging and existing technologies in the solution of medical informatics problems
Examples: Role of types of technologies; utility of specific examples (e.g., software reviews in JAMIA*)*

B.5. Define and promote the development and enhancement of an informatics infrastructure for health sciences and health care
Examples: Standards; networks; practice guidelines

B.6. Identify models for integrating informatics research and service activities within an institution

B.7. Promote adoption of consensus standards
Example: Promote published consensus standards about medical records, messages, vocabulary

B.8. Influence public policy regarding health care in the United States and internationally
Examples: Take proactive role to advance medical informatics interests to government organizations; represent United States medical informatics in national and international forums

C. AMIA should be the premier membership or-

ganization in medical informatics and health-care information processing (membership goal)

C.1. Embrace and serve ALL US individuals and organizations with an interest in medical informatics

Question: Should there be a size target? E.g., "Grow to a membership at 10,000 or greater in 5 years"

C.2. Provide attractive and high-quality membership benefits for individuals, corporate members, and health-care institutions

Examples:
- *—For individuals: Product guidance, electronic mail services, job exchange*
- *—For corporate members: Exposure of products to potential markets, clarification of markets for products, access to decision makers, quality control re: products and product plans, recruiting support*
- *—For health-care institutions: Workshops and educational programs, recruiting support, working groups aimed at institutional issues*

C.3. Provide relevant information resources

Examples:
- *—Journal, newsletters, proceedings, directories, white papers*
- *—Identification and evaluation of emerging technologies*
- *—Clearinghouse for medical record, message, and coding standards*

C.4. Enhance the professional growth of members

Examples:
- *—Affinity groups*
- *—Credentialing*
- *—Educational (e.g., medical informatics course) curriculum standards*
- *—Assimilation of new entrants into medical informatics*
- *—Recognition of contributions to field*

C.5. Provide mechanisms for member-to-member exchanges

Examples: Local/regional chapters; social functions at meetings

C.6. Continually monitor and assess member needs and satisfaction

Examples: Tune meetings to member needs; use fax servers/faxgrams; electronic mail feedback; other mechanisms for feedback

D. AMIA should foster cooperation with other organizations, national and international, relevant to medical informatics (related organization goal)

D.1. Foster cross-fertilization among disciplines

D.2. Coordinate health informatics activities with national and international organizations, and foster cooperation

Examples: Joint meetings; meeting coordination; announcements to members

D.3. Promote recognition of medical informatics as a discipline by other health-care and technical fields

Examples (going beyond coordination in goal D.2):
- *—AMIA Advisory Council*
- *—Provision of informatics subject content for other specialty organization meetings (e.g., informatics subprogram within MLA, ACP); speaker lists*
- *—Organization development:*
  - *cosponsored activities*
  - *lobbying (within constraints of 501(c)(3) status); standards development*
  - *information exchange*
  - *working groups*
  - *joint publications*
  - *white papers*

D.4. Develop special relationships with multi-institutional organizations

Examples: UHC, Premier, Kaiser-Permanente

D.5. Facilitate access to AMIA members by organizations, and by AMIA members to organizations

Examples:
- *—Maintaining rosters of users in special categories (e.g., beta testers, evaluators, special expertise)*
- *—Definition of employment categories/"templates"*
- *—"Open houses" for AMIA members at sites with interesting systems and programs*

Commentary

Respondee Characteristics

A total of 67 written responses were received. Respondees were classified according to degrees or training levels and into sets of non-mutually exclusive occupational or site-related categories, as shown in Table 2. While most of the responses were from MDs and PhDs, who were engaged in academic/research activities or clinical practice, a wide spectrum of responses from individuals with other backgrounds and in other careers was also received.

Responses were classified according to the six types identified in Table 3, which provides the number and percentage of responses in each category. As seen in Table 3, most of the responses were positive. The largest number of comments dealt with the specific examples chosen to illustrate possible objectives for each goal, with the remaining comments dealing with the goals.

Specific Comments

The participants at the retreat generated a large number of suggestions that were combined and generalized to produce the broad-based draft strategic plan listed above. Many of the comments from the respondents to the draft mailing recapitulated the initial suggestions by participants at the retreat. Others

Table 2 ■

Classification of Respondees

Job Category	Training					Total
	Student	MD	PhD	Other	Unknown	
Academic/research	2	12	5			19
Health-care administration/data processing		7		8		15
Clinical practice		9				9
Government		3	1	2		6
International (1 Canada)		2		1		3
Library			1	6		7
Nursing			1			1
Unknown		1			4	5
TOTAL	2	34	8	17	4	

suggested wording changes to clarify or expand meaning. A sampling of the comments from the respondents is included below. The full set of comments from the focus groups and from the respondents, as well as any comments generated by this publication, will be forwarded to the AMIA Strategic Planning Committee for further consideration.

General. Two individuals noted the importance of emphasizing the inclusiveness of the term "medical" in the name of our organization. The word "medical" in American Medical Informatics Association is used in its most comprehensive sense to include all aspects of biomedical research and health-care practice, as in the term "medical center." We encourage, and have experienced, participation from a large variety of health-care professionals (dentists, nurses, physicians, physician assistants, therapists, and veterinarians, to name a few) as well as from members from information management fields (librarians, informaticians, and engineers) and basic scientists (biotechnology researchers, computer scientists, and others). AMIA has grown as members from all of these diverse communities have recognized the value of our organization to their own interests and goals.

Mission Statement. Several persons suggested that a more specific phrase be added, such as "to advance the interests of medical informatics through . . . " to the general objective of ". . . to advance the public interest through charitable scientific, literary, and educational activities."

Goals Taken as a Whole. Several comments suggested that the goals could be improved by placing greater emphasis or stress on the use of electronic media. Others commented that the goals might focus more on individual "users" rather than on representing and working with large organizations, for example, by providing greater services for practitioners—services they could use and rely on in their daily work. Some favored placing greater emphasis on collaboration between academic and vendor communities, and providing an increased role for vendors, consultants, and information systems managers within the organization.

Informatics Goal (Goal A). One suggestion was to expand the goal to address the role of informaticians as systems analysts, or intermediaries, in the interface between patient care and information processing. Some respondents recommended explicit extension of subgoals of the informatics goal to include mention of fields such as bioengineering, nursing, medicine, and medical technology. Some suggested that subgoal A.1.(b) be extended to include a mechanism for accreditation of educational programs in medical informatics, and to foster practica (internships and fellowships) in industry. Several respondents raised concerns about the controversial nature of providing certification, which carries with it legal liabilities and nontrivial organizational expenses.† Two recommendations were made for additional subgoals under A.1.: to stimulate interest in the field of medical informatics (for example, by providing informational brochures to students and practitioners; through development of local chapters; and through a mentor program), and to create and disseminate a code of ethics for the profession. One suggestion was to explicitly mention electronic means of communication, as well as AMIA meetings and publications, under

†The AMIA Board of Directors, at its September 1993 meeting, heard a presentation regarding the certification process and subsequently voted to defer any efforts toward certification in medical informatics indefinitely.

subgoal A.2.(c). A number of respondents expressed diverse opinions about the value of goal A.2.(c), to "aid members in research and writing skills." Additional subgoals suggested under A.2 included first, promoting technology transfer from the academic to the commercial domains; and second, providing information and assistance with respect to intellectual property protection (e.g., patents and copyrights) and government regulations (e.g., Food and Drug Administration).

Societal Goal (Goal B). Several respondents expressed concern about how interesting results in medical informatics could be disseminated to practitioners in the end-user community since such results are often "buried" in medical informatics journals. An educational role for AMIA in the lay community was also mentioned—the public should learn how information systems can be used for benefit (or potential harm) within health care. AMIA might also promote technologies that improve participation by health-care consumers. One suggestion was for AMIA to become a clearinghouse for information on support of informatics projects, both public and private. Several commented that the examples given in the subgoals needed to be made more specific. One respondent suggested adding a subgoal to promote collaboration at individual and institutional levels with the intent of facilitating the development of a large, electronic, medical, multimedia information base for nationwide use as a medical reference and as a source of instructional programs.

Membership Goal (Goal C). Several respondents suggested clarification of whether membership objectives included only the United States, or referred to North America. Most respondents thought that stating or setting a membership target size was not desirable—if AMIA keeps its sights on stimulating activities, sponsoring appropriate journals, and publicizing its accomplishments, membership will grow on its own. Many commented on the importance of keeping membership costs low as the organization grows. Some stated that examples of membership objectives should mention corporate members as well as individual members. Many comments related to electronic dissemination of information to members, e.g., through the use of Internet Listservs, gophers, bulletin-board systems, electronic mail, remotely accessible databases, and electronic conferencing. AMIA should be at the forefront of electronic information distribution.

Related Organization Goal (Goal D). One respondent recommended specifically mentioning IMIA by name in terms of mechanisms of international cooperation. Some commented that the objectives should specifically list the types of related organizations envisioned, and that managed-care organizations should be included in the list. Another comment was that a consortium of bioengineering, biomathematics, biostatistics, medical informatics, and other societies should be formed for our collective voices to be heard politically, and for the expense of diverse meetings to be reduced—"analogous to FASEB, e.g., FASCOMB—Federation of American Societies for Computational Medicine and Biology." Some respondents suggested more specific wording for subgoal D.2., to include promoting cooperation in medical informatics among developed countries (e.g., meeting coordination, joint meetings, and shared announcements to members) and actively supporting medical informatics in developing countries (e.g., through reduced meeting fees and invited particpation at certain sessions or symposia). Several people commented that the wording of subgoal D.4. was narrow and might be improved—some did not understand what was meant by "multi-institutional organizations," while others requested clarification on the meaning of "special relationships." Most of the examples under subgoal D.4. were for-profit groups, and special relationships with such groups must be carefully maintained so that AMIA is not "used"; relationships with other, not-for-profit groups might be mentioned in the examples as well (for example, the VA, JCAHO, and CPRI). One person questioned the meaning of "templates" in the example under subgoal D.5.—what was intended was provision of forms and descriptors that would help to identify individuals with specific kinds of skills or expertise. Again, several comments suggested providing models to other organizations on how to utilize electronic communications and information management beneficially.

Table 3 ■

Types of Responses

No.	%	Type of Response
7	10.5	A—very positive, minimal changes
30	44.5	B—positive, with changes only to examples, or minor changes to goals, or without quality judgment
24	36.0	C—generally positive, with more substantive changes, or with substantive changes without quality judgment
3	4.5	D—major changes or negative
2	3.0	E—complete rewrite
1	1.5	F—non-pertinent, e.g., commercial announcements, etc.

Discussion

The timeline in Table 1 may be useful to others embarking on or contemplating a strategic planning process, in that it depicts the length of time involved in the various activities that were involved in developing the draft strategic plan.

This paper is intended as both a means of dissemination of the strategic plan and a call for membership participation in its further refinement, as well as a means for the development of objectives for achieving each. The letters to the editor will be one form of feedback. The AMIA office will also welcome commentary, as will the author.

The AMIA Board of Directors is already acting upon many of the recommendations that are contained in the strategic plan. In addition, the AMIA Board has decided to continue to have an Ad Hoc Strategic Planning Committee, which will carry the process forward.‡ Some resopndents requested additional details regarding how specific aspects of the plan might be further developed and implemented. All decisions regarding implementation of the plan must be approved by the AMIA Board of Directors. It might be possible, to have AMIA Committees and AMIA Working Groups develop portions of the plan that pertain to them, for subsequent presentation to the Board.

Following the analysis of commentary from members, as reported above, key points that emerged were the following:

- AMIA should emphasize that its focus is inclusive, with participation from a large variety of healthcare professionals (dentists, nurses, physicians, physician assistants, therapists, veterinarians, and others) as well as from members from information management fields (librarians, informaticians, and engineers) and basic scientists (biotechnology researchers, computer scientists, and others). AMIA encompasses not only academicians, but also healthcare providers, end-users, and consumers. AMIA includes corporate as well as individual members, and it participates in collaborative efforts with a growing number of other organizations.
- Many respondents believe that credentialling by AMIA would be controversial, with many dangers and difficulties.
- Membership goals should not set specific targets for numbers of members. If services and benefits continue to be of improving and high quality, growth will occur. Membership services should be affordable.
- AMIA should increasingly use electronic media in supporting communication and education and providing member services. AMIA should provide information about technologies and developments related to medical informatics to its members. These services, which may be difficult for some to obtain, can be especially valuable to members who are not academically affiliated and to students.
- AMIA should take an activist role in promoting standardization efforts.
- AMIA should take a balanced approach in its relationships with other organizations. While a few large organizations may merit special relationships with AMIA, services to individuals and relationships with smaller, focused organizations should also be of high priority.

The challenge of defining goals for AMIA is similar to the challenge of defining the field of medical informatics. The boundaries are difficult to determine because the field is inherently multidisciplinary. Because every sphere of activity uses and communicates information in one form or another, the individuals identifying with the field are similarly difficult to characterize. A definition the author has used for medical informatics,[5] "the field concerned with the cognitive, information-processing, and communication tasks of medical practice, education, and research, including the information science and technology to support these tasks," explicitly emphasizes the broad range of disciplines and activities encompassed by the field. If AMIA wishes to be the premier organization in the field, its goals must be aimed at this range of discipline and activities. Perhaps AMIA's goals should extend even further, as an organization also seeking to identify and transfer suitable and effective information technologies, and to foster awareness of them and their appropriate uses; in so doing, it must be concerned with embracing the corporate world, the end-users, and the ultimate recipients, the patients.

It is probably most important to keep the definition fluid, the organization supple, and the goals adaptable to changing needs. Medical informatics is primarily a field of bridging—among disciplines, among information sources and recipients, between academic and applied pursuits, and between providers

‡The committee will be chaired by Donald A. B. Lindberg, MD, effective January 1, 1994.

and consumers. We must focus on this bridging process as well as on the research and the products. The means are as important as the ends.

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Members of the Board of Directors of AMIA at the time the strategic plan was developed were:

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The author thanks the many individuals who made contributions to the strategic planning process described here; Elliot Siegel, PhD, Associate Director for Health Information Program Development, National Library of Medicine, who has had considerable experience with the development of long-range plans and who provided help; and Gail Mutnik who with the able assistance of the AMIA office, handled most of the logistics and provided needed information promptly whenever asked.

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