

Historical Perspectives

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The International Society of Strategic Studies in Radiology¹

Technologic breakthroughs in diagnostic imaging modalities have made imaging the most important diagnostic tool in medicine and the preferred platform for developing minimally invasive interventional procedures. Imaging is also likely to become central to the development of personalized medicine in the era of molecular medicine. However, because health care expenditures are increasing faster than are other segments of the world economy, societies and governments have become increasingly cost conscious. As radiologic equipment has become more pervasive, sophisticated, and expensive, it has become a high-profile target in reviews of medical costs. Efforts have been made to restrict access

and slow down developments in medical imaging. Yet the desire to restrict the use of imaging is counterbalanced by the clinical reality that radiology facilitates more timely and precise diagnosis. In many instances, it has become the most important guide to optimizing therapeutic decisions. Modern radiologic procedures both minimize missed or incorrect diagnoses that are hugely expensive to society and reduce costs by shortening patients' recovery time. In addition, they eliminate the need for more invasive, and thus more costly, outmoded diagnostic approaches. Last, in the past half century there has been little progress in decreasing mortality from common cancers. The best evidence suggests that, at present, early diagnosis, in which imaging plays an essential part, offers the best hope for decreasing cancer mortality; moreover, in the future, molecular imaging could allow even earlier preclinical cancer diagnosis and understanding of basic disease processes.

A decade ago, a group of leaders in radiology began to discuss these problems; their goal was to positively influence world health by facilitating the appropriate use of medical imaging and formulating strategies to guide future research and policy pertaining to radiology. They also wanted to prevent implementation of policies that could negatively influence developments in health care and might ultimately harm their patients. What started as a small meeting of global opinion leaders in radiology expanded over the years to address additional professional challenges, including

(a) interactions among radiology with current information technology applications; (b) specialty-related turf battles; (c) challenges related to workforce shortages in the face of increasing workloads; (d) support for imaging research; (e) raising radiologic education standards; (f) growing pressures on academic time caused by increasing clinical obligations; (g) redefinition of the frontiers of the radiologic discipline to encompass cellular, molecular, and genetic processes and nanotechnology and systems biology; and (h) the effects of economic and cultural globalization on the profession.

This diversity of topics and the need for a permanent forum for discussion led to the creation of a professional, international body with a formal structure that allowed the organization of regular meetings. These meetings enable members and attendees to engage in strategic communication.

The international body, now known as the International Society of Strategic Studies in Radiology (IS³R), has to date worked in the background of the radiologic discipline, disseminating information and ideas to its membership, to invited speakers, and to leaders of industry and government whose work involves medical imaging. Because the society has matured over the last decade, and because the opportunities and challenges facing radiology around the world have never been greater, the leaders of the IS³R believe that this is an appropriate time to publish this brief history of the society and, subsequently, its white papers.

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History

Under the leadership of Dr Alexander Margulis of the University of California, San Francisco (UCSF), and Dr Stephen Golding of Oxford University, England, an international group of radiologists was brought together to address the need to justify the costs of radiology in an era that focused on cost containment. The first meeting of this worldwide working group was held in Oxford, England, in April, 1994. Group members from the United States, Belgium, the United Kingdom, Germany, Sweden, Japan, and Italy offered insights about their countries' respective national health care systems, including reimbursement strategies. The group strongly favored the idea of an organized forum to discuss these issues and agreed to immediately begin preparations for a symposium to be held the following summer. To facilitate open discussion, a special format was chosen for the symposium, with a restricted number of participants from all areas of the radiologic profession, as well as government officials and industry representatives. The proceedings of the symposium were to be published for the group, and an executive summary was to be sent to each national society and to the respective government agencies. The program would touch on important issues facing the field, including international differences in technology assessment and outcomes; communication with governments; current and future developments; perspectives in clinical practice, education, and research; and incorporation of quality-of-life factors and ethical considerations.

The First International Symposium on Costs and Benefits of Radiology, organized by Drs Golding and Margulis, was held in August 1995 in Oxford. As those present agreed that the meeting generated stimulating discussions and excitement, a second meeting was planned. The Second Oxford International Symposium on the Cost and Benefits of Radiology was held in San Francisco, California, in August 1997. Before the third symposium, it became obvious that the work of the participants needed to be incorporated into a more formal structure. The third symposium, which took place in Berlin, Germany, in August 1999, represented the launching of the new IS³R. Statutes were established on the basis of propositions made by the local organizer, Dr Karl-Jürgen Wolf, in cooperation with Drs Christian Herold and Peter Baiertl from Vienna, Austria. Vienna was chosen to be the seat of the society office, and

the European Congress of Radiology office was asked for assistance. The Austrian authorities confirmed the founding of the society in November 1999, and the constituting general assembly took place on March 7, 2000, in Vienna. An Executive Committee was elected. Dr Hans Ringertz from Karolinska Medical School became the first president of the IS³R. He was succeeded by Dr Gary M. Glazer of Stanford University, California, in 2003.

The present officers of the society are Gary M. Glazer, MD, President; Hans G. Ringertz, MD, PhD, Past President; Alexander R. Margulis, MD, Honorary President; Guy G. Frija, MD, President-Elect; Ronald Arenson, MD, Vice President; James H. Thrall, MD, Treasurer; and Christian J. Herold, MD, Secretary. The Executive Board consists of a number of additional members: Stephen J. Golding, MD (United Kingdom); Hedvig Hricak, MD, PhD (United States); Gabriel P. Krestin, MD, PhD (the Netherlands); Maximilian Reiser, MD (Germany); Lenny K. A. Tan, MD (Singapore), Gustav K. von Schulthess, MD, PhD (Switzerland). The society currently has 59 active members from 18 countries; 30 members reside in European countries, 20 are from the United States, eight are from Asia, and one is from Australia. The society has strong relations with industrial partners who actively participate in the discussion forum. Over the years, the chief executive officers of the leading corporations involved in radiology and medical imaging have participated in the society, and in 2003 formal corporate memberships were established. Reflecting the broader research initiative in radiology, corporate participation has expanded to include the pharmaceutical and biotechnology industries.

Mission and Goals of the Society

The IS³R is a nonpolitical, nonprofit organization whose purpose is to define and investigate strategic, scientific, and economic issues of global importance to the field of radiology. The main goals of the society are (a) to bring together on a regular basis a group of world leaders in radiology and to create a network between these individuals and their institutions; (b) to define strategic, scientific, and economic issues of international or global importance to radiology; (c) to research and investigate these issues on the highest possible scientific level; (d) to foresee international or global developments in radiology and related areas of medicine; (e) to communicate strategi-

cally important issues and scientific information to radiologists, physicians in other medical fields, industry and government officials, and lobbyists concerned with health care; (f) to form a strategic partnership with industry in order to define important and relevant fields of cooperation and common engagement and thereby maximize the future success of both partners; (g) to provide vision that serves as a basis for advancing research, clinical practice, and teaching in cooperation with industry and health care partners; (h) to prepare radiologists, their colleagues, and the public for future developments; (i) to guide the flow of capital and investment into the most important scientific and strategic fields related to biomedical imaging; and (j) to develop guidelines for improving health care policies so that radiology will better serve its patients and the general public.

Brief Summary of Past Meetings

The First International Symposium on the Costs and Benefits of Radiology, which was held in August 1995 at St John's College, Oxford University, England, was organized by Stephen Golding of Oxford University and Alexander Margulis of UCSF. This meeting was attended by the 86 delegates. Fifty-five delegates belonged to the medical field, 53 acted as speakers, and 31 were industry representatives. Approximately 50 papers were submitted by the speakers and published as a supplement to *Academic Radiology* in April 1996 (1). The meeting opened up new perspectives on the costs and benefits of radiology. Participants offered fresh insights into international benchmarking and shared various local solutions to general strategic radiologic problems. The discussions with top-ranked industry representatives were excitingly free and open.

The Second Oxford International Symposium on the Cost and Benefits of Radiology was held at the Mark Hopkins Intercontinental Hotel in San Francisco in August 1997. The idea to accept invited speakers from medicine and industry, as well as from government, was discussed and reaffirmed. Ronald Arenson and Alexander Margulis, both of UCSF, were the organizers of the scientific program. Timothy Peters and Renee Sauers of the Department of Radiology at UCSF coordinated the administration, logistics, and finances of the meeting. The main items on the program were the rationale for assessing costs and benefits, methodolog-

ical issues, the views of governments and industry concerning health insurance, and new cost-benefit research projects being conducted around the world. The scientific level of the papers showed increasing scope, and the number of participants rose to 109. The need for outcomes research on radiologic technologies and examinations was clearly demonstrated. The proceedings from the symposium were again published as a supplement to *Academic Radiology* in September 1998 (2). At the end of the meeting, the organizing committee decided that the request for a third symposium was justified.

The Third Oxford International Symposium was held at the Hotel Intercontinental in Berlin, Germany, in August 1999. Karl-Jürgen Wolf of the Free University in Berlin and Alexander Margulis of UCSF were invited to organize the meeting. The meeting in Berlin benefited from the previous experiences in Oxford and San Francisco. The scientific topics covered definitions, approaches, tools, and applications on cost-effectiveness, government policies on health management, principles of reimbursement, the question of how industry copes with price versus quality, and the costs of research and education. Eighty-seven invited speakers and participants from around the world attended. Interesting discussion with industry was a highlight of this meeting. The proceedings were published in a supplement to *European Radiology* in 2000 (3).

The first meeting of the newly named and established IS³R took place in August 2001 in San Francisco. The organizers, Ronald Arenson of UCSF and Gary M. Glazer of Stanford University, called the meeting "Radiology Entering the New Millennium." They deliberately expanded the scope of the meeting beyond the society's historical roots in cost-effectiveness and technology assessment. Strategic aims of international radiology, current and future directions of technology development of imaging modalities, and emerging re-

search areas were discussed at length. Special attention was given to the creation of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) of the National Institutes of Health, and an extensive discussion on governmental regulations was incorporated into the meeting program. Participants also tackled daily problems related to management and computer applications, while industry panels from manufacturing and pharmaceutical companies completed the spectrum of conversations. A luncheon presentation by David Botstein, PhD, an eminent molecular geneticist, provided insights into molecular medicine and molecular diagnostics. The expansion of the agenda proved to be highly attractive to all participants and led to extremely fruitful exchanges.

The fifth international symposium and second meeting of the IS³R took place in August 2003 in Chantilly, France, near Paris, and was organized by Guy G. Frija of the University of Paris. The meeting's title was "Creating Strategies for the Next Decade". The symposium focused on strategic professional questions dealing with professional demography, turf issues, imaging equipment dissemination and innovation, and evidence-based radiology. Newly appointed director of the National Institutes of Health and former IS³R Executive Board member Dr Elias Zerhouni delivered a keynote lecture on major trends in biomedical research. An extensive part of the meeting was dedicated to the impact of research on radiologic organization and Dr Zerhouni's concept that radiology had passed from being a specialty within medicine to a field of its own. The 1992 Nobel Laureate in physics, Georges Charpak, PhD, spoke about the relationship between physics and medicine and the philosophy of discovery. Participants discussed changes in the regulation process for approval of new technologies and drugs. Leading researchers and the audience had extensive discussions about the translation of molecular imaging into practice. The final

day was dedicated to communication policies. Discussions between industrial partners and professionals focused on the role of radiologic meetings and technical exhibits in the dissemination of basic and strategic radiologic facts to the public, including information about the increasing importance of radiologists' work in modern health care.

Since the First International Symposium, chief executive officers of numerous companies such as AGFA Gevaert, Amersham Health, Bracco Imaging, Eastman Kodak, E-Z-Em, Fischer Imaging, GE Medical Systems, Guerbet, Philips Medical Systems, Schering, and Siemens Medical Solutions have actively participated in industry panel discussions.

Future Activities

The next meeting of the society will be held in August 2005 in Boston, Massachusetts. The local organizer and chair of the Program Committee, James H. Thrall of Harvard University, is preparing an exciting program dealing with vital questions related to our discipline. Information on the aims and objectives of the society, as well as past and future activities, were recently made available on the IS³R Web site, www.is3r.org. The officers of the Society plan to develop and disseminate white papers from materials presented in Boston and at subsequent conferences. The society encourages readers to submit comments and suggestions via its Web site.

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