

## **12. Working Groups**

**Please bring to the Meeting the copy of the  
IMIA INFORMATION BULLETIN  
(Green Booklet) which was sent to you in  
May 1991**

Corrections of addresses, Tel.-, Fax-  
numbers or other data should be  
handed over in writing to the secretary

# INTERNATIONAL MEDICAL INFORMATICS ASSOCIATION

Special Interest Group of the International Federation for Information Processing

Ir. Chr. ZYWIETZ  
Medizinische Hochschule Hannover  
Arbeitsgruppe für Biosignalverarb.  
Konstanty-Gutschow-Strasse 8  
3000 Hannover 61  
Germany

EC/JW/vd/91-071

Leuven, 25.02.91

Dear Christoph,

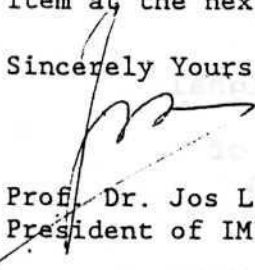
I hereby formally want to inform you on behalf of the Board of IMIA, that the decision has been made to dissolve Working Group 3 on "Testing and Validation for ECG Analysis Programming" of which you have been the Chairman for so many years. I have already informed you orally of this decision some time ago.

As you know, the activities of this Working Group have over many years been pursued in CSE. It is not because of the fact that the CSE project is now officially terminated, that the decision was taken, but in view of a reorientation of the scope and mandate of the Working Groups, now called Special Interest Groups in the Bylaws of IMIA.

The scope of Working Group 3 was too limited, and would better fit in a wider Special Interest Group on Biosignal Analysis. Are you still interested in creating such a group? If yes, I would appreciate it very much if you could discuss it with Jan van Bommel, Rosanna and other interested parties before submitting a proposal to the Board.

I look forward to your reply in the coming weeks. We will briefly discuss this item at the next IMIA Board Meeting in Bordeaux on March 22-24, 1991.

Sincerely Yours,

  
Prof. Dr. Jos L. WILLEMS  
President of IMIA

cc. : Prof. Dr. J.H. van Bommel

President: J.L. Willems (Belgium)  
Past-President: S. Kaihara (Japan)

Vice-President: F. Roger (EFMI)  
Vice-President: V. Yacubsohn (IMIA-LAC)  
Secretary: R. Salamon (France)  
Treasurer: A.R. Bakker (Netherlands)

Trustee: Z. Ouyang (PR China)  
J. Michel (GDR)  
M.J. Ball (USA)  
J.R. Scherrer (CH)  
J. Flint (Canada)



IMIA

IFIP  IMIA Secretariat: c/o IFIP Secretariat, 16 Place Longemalle CH-1204 Geneva, Switzerland

LHP/LMIA 4.0



# MEDIZINISCHE HOCHSCHULE HANNOVER

Arbeitsbereich Biosignalverarbeitung

Dipl.-Ing. Chr. Zywiets

Zentrum Biometrie, Medizinische Informatik und Medizintechnik

MHH · Biosignalverarbeitung · Postfach 610180 · D-3000 Hannover 61

Prof. Dr. Jos L. Willems  
Div. Medical Informatics  
Univ. Hospital Gasthuisberg  
49 Herestraat  
B 3000 Leuven Belgium

Ihre Zeichen

Ihre Nachricht vom

Mein Zeichen

Durchwahl-Nr.

Hannover

532-4412

20.3.1991

Ref.: IMIA Special Interest Group

Dear Jos,

I certainly agree that further activities of a working group-like body within the IMIA should have some wider scope than Testing of ECG analysis systems and a theme as "Biosignal Analysis" may be appropriate if the working group is to be transformed into a "Special Interest Group".

To fill this very broad theme with some concrete tasks I propose the following subjects for consideration:

1. Quality Assurance of Biosignal Analysis Systems  
(Elaboration of guide lines for testing ; Methods, data bases, development of standards etc). There are common problems in EEG analysis, blood pressure measurement and monitoring and many other medical systems applying computerized (Bio-) signal analysis.
2. Another subject could be education and teaching in biosignal processing. To my knowledge there are no comprehensive textbooks available and edition or creation of a series of qualified textbooks including theory and application (in Medical Informatics) would fill a gap.
3. New trends in Biosignal Analysis: Application of Neural Network Theory and of Non-linear Dynamics is becoming more and more serious scientific work. I would be willing to organize an IMIA WORKING CONFERENCE on selected topics with a limited number of participants to identify and select specific topics for further collaborative work.

4. Another item that would be worth some investigation could be an inventory on cost effects (for health care) of computer application in medical devices. Increase of costs is often associated with the implementation of computers. An assessment of effects on instrumentation costs and on the costs due to changed application may discover interesting facts for those which have to decide on funding or introduction of new information processing technology.

There are certainly other aspects and items worth to be handled of a Special Interest Group of an Association like IMIA with "world wide" membership of experts. I feel myself still linked to IMIA and if I can collaborate in some way for its goals I will be delighted to do so.

Yours cordially



PS.: I will discuss this matter with Prof. van Bommel, Rosana Degani and other colleagues at the next occasion.

Our Ref LY290502

7 June 1991

To: **National Representatives of IMIA**

Dear Colleague

Re: **IMIA WORKING GROUP 4 - DATA PROTECTION AND INFORMATION SYSTEMS SECURITY**

It is sometime since Working Group 4 updated its Membership list. I am enclosing a copy of the current Membership list and would be grateful if you would advise me whether your National Medical Informatics Society wishes to make any changes or additions to its representation (or lack of it) on IMIA WG4 or whether it wishes to advise us of particular specialists in this area with whom we should be in contact from your country.

I am enclosing a letter I have written to Members of Working Group 4 calling a meeting to explore the possibility of holding a Working Conference in the Spring of 1993 as an indication of the reason for my being anxious to make sure that our representation is up to date and as effective as we can make it.

Looking forward to meeting you.

Warmest Greetings and Best wishes

*Lisa J Hodge*

BARRY BARBER

# IMIA WORKING GROUP 4 - MEMBERSHIP

A. R. BAKKER  
BAZIS  
Schipholweg 97  
2316 XA Leiden  
THE NETHERLANDS

Jens DANIELSSON  
Secretary WG 4  
Pharmacia AB  
S-75182 Uppsala  
SWEDEN

D. J. KENNY  
Regional General Manager  
NW Thames RHA  
40 Eastbourne Terrace  
London W2 3QR  
UNITED KINGDOM

Dennis PROTTI  
Health Information Science  
University of Victoria  
PO Box 1700,  
Victoria BC  
CANADA V8W 2V2

F. H. ROGER-FRANCE  
Cliniques Universitaires St. Luc  
Centre d'Informatique Mediale  
BTE 3718 1200 Brussels  
BELGIUM  
Tel 32-2-764-4709  
Fax 32-2-764-5322

K. SAUTER  
Abt Medizinische Statistik und  
Dokumentation der CAU  
Brunswiker Strasse 2a  
D-2300 Kiel  
FEDERAL REPUBLIC OF GERMANY

M. SCHOLES  
Flat 8, Orient Wharf  
70 Wapping High Street  
London E1 9XB  
UNITED KINGDOM

I Vinther JORGENSEN  
World Health Organisation  
Regional Office for Europe  
8 Scherfigsvej  
DK-2100 Copenhagen 0  
DENMARK

Barry BARBER  
Consultant NHS  
Information Management Centre  
19 Calthorpe Road  
Edgbaston, Birmingham  
B15 1RP UNITED KINGDOM  
Tel. 44- 21-454-1112  
Fax 44- 21- 455-9340

Patrice DEGOULET  
CHU Pitié-Salpêtrière  
Service D'Informatique Médicale  
91 Boulevard de l'Hopital  
F-75013 Paris  
FRANCE

Jörg KUTSCHERA  
Oskar-Sommer-Str. 18  
D-6000 Frankfurt A. M. 70  
FEDERAL REPUBLIC OF GERMANY

H. D. PURPS  
CHF Mueller  
Unternehmensbereich der  
Phillips Gmbh  
Alexanderstrasse 1  
D-2000 Hamburg 1  
FEDERAL REPUBLIC OF GERMANY

Yoichi SATOMURA, MD  
Division of Medical Information  
Chiba University Hospital  
1-8-1 Inohana  
Chiba City 280  
JAPAN

Jean R. SCHERRER MD  
Professor of Medicine  
Université de Genève, Faculté de Médecine  
Division d'Informatique Hopital Cantonal  
12211 Genève 4  
SWITZERLAND

C. S. A. SNYMAN  
Infoplan  
Private Bag X3002  
Monument Park 0105  
SOUTH AFRICA

A. I. WASSERMAN  
University of California  
Section on Medical Information Science  
Room A-16  
San Francisco California 94143  
USA

Koji YAMAMOTO  
Medical Information Center  
Kochi Medical School  
Okochi Kohasu, Nankoku-Shi  
Kochi 781-51 JAPAN

B. ZIEGLER-JUNG  
University of Twente  
Faculty Bestuurskunde  
Postbus 217  
7500 AE Enschede  
THE NETHERLANDS



Charter: HRH The Duke of Kent KG GCMG GCVO ADC

# PRIMARY HEALTH CARE SPECIALIST GROUP



President: DR G. CLAYTON

Dr. G. M. Hayes  
Chairman

3 Beech Avenue North  
Worcester WR3 8PX  
Tel: (0905) 754268  
Fax: (0905) 56817

Dr. Jos Willens  
IMIA President  
Afdeling Medische Informatica  
University Hospital  
St. Rafael-Gasthuisberg  
49 Herestraat  
B - 3000 Leuven  
BELGIUM

## IMIA Working Group 5 - Primary Care

Dear Jos,

Since I was appointed chairman of Working Group 5 in August at the AGM in Glasgow I have concentrated my efforts at completing the IMIA book. This is the collected papers from our International meeting in Primary Care Computing which was held in Brighton England in 1990.

I am pleased to say that the final manuscript is now with Elsevier. I hope that publication will be very soon.

Now that this is finished I intend to circulate all the IMIA representatives to ask whom they would like to suggest from their own countries who could be involved with Working Group 5. I shall conduct most of the communications by fax and letter.

I hope to have a complete membership and our submission for the progress of WG5 for the AGM in November.

Yours sincerely

Dr G. M. Hayes

# INTERNATIONAL MEDICAL INFORMATICS ASSOCIATION

Special Interest Group of the International Federation for Information Processing

Dr. Glyn HAYES  
Primary Health Care  
Specialist Group  
3, Beech Ave North  
Worcester WR 3 8PX  
United Kingdom

Ref. : EC/JW/jt/91-136

Leuven, 9/4/1991

Dear Glyn,

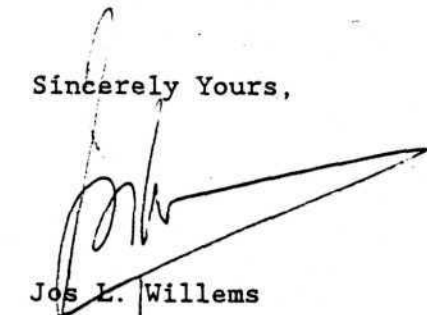
I have well received your FAX dated March 21st, 1991.

I am pleased with your announcement that the preparations for the Proceedings of the Working Conference on Primary Care, held in Brighton last year, are now finished.

I look forward to the publication of the book and hope that your Working Group will continue its activities.

For the AGM of November we would appreciate to receive in due time, i.e. not later than September 15th, 1991, a report on the objectives and future plans of your Group, as well as an updated Member-list. It would be interesting if you could structurize your Special Interest Group into sections focusing on specific but "broad" topics.

Sincerely Yours,

  
Jos L. Willems  
President of IMIA

President: J.L. Willems (Belgium)  
Past-President: S. Kaihara (Japan)

Vice-President: F. Roger (EFMI)  
Vice-President: V. Yacobsohn (IMIA-LAC)  
Secretary: R. Salamon (France)  
Treasurer: A.R. Bakker (Netherlands)

Trustee: Z. Ouyang (PR China)  
J. Michel (GDR)  
M.J. Ball (USA)  
J.R. Scherrer (CH)  
J. Flint (Canada)



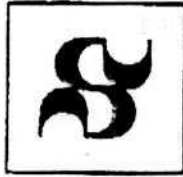
IFIP



IMIA

IMIA Secretariat: c/o IFIP Secretariat, 16 Place Longemalle CH-1204 Geneva, Switzerland





Faculté de médecine

UNIVERSITÉ  
DE SHERBROOKE

Centre hospitalier universitaire de Sherbrooke  
Sherbrooke (Québec) J1H 5N4

August 19, 1990

L.M.L.A. - A.G.M.  
Glasgow, Scotland

Colleagues,

Today I wish to propose to the Annual General Assembly, in accordance with Article 5.4 of the new Statutes, establishment of a Special Interest Group on "Medical Concept Structures for Knowledge Representation". In the past, there has been no working group within L.M.L.A. concerned with this important and basic domain of activity. WG-6 evolved towards this area of expertise on the occasion of its second international working conference held in Geneva in 1988.

Therefore WG-6 could be dissolved since its usefulness has ended.

If L.M.L.A. really represents "medical informatics", then it is important to collect within a S.I.G. researchers involved with the structure of medical concepts so that medicine can progress in the areas of knowledge representation and the development of comprehensive knowledge-based expert systems.

I would like to submit the enclosed proposal to the Assembly.

Sincerely yours,

Dr. Roger A. Côté  
C.R.D.M.I.  
Faculty of Medicine  
Université de Sherbrooke  
Sherbrooke, Qc, J1H 5N4

**I M I A**

**SPECIAL INTEREST GROUP PROPOSAL**

**S.I.G. I**      **Medical Concept Structures for Knowledge Representation**

**MAJOR GOAL**      Building and optimizing the structure of a concepts vocabulary for knowledge representation in medicine

**SCOPE**      The scope of this group encompasses the review and study of existing medical vocabularies, nomenclatures and classifications; examination of the various data structures proposed by researchers, such as frames, scripts, conceptual dependencies, semantic networks, medical logic modules and conceptual graphs; and determination of the structural properties essential to an optimized vocabulary for natural medical language analysis and for knowledge representation.

**AIMS**

- To promote and encourage interaction among professionals working in this particular domain of medical knowledge representation.
- To review existing structures of medical lists, vocabularies, nomenclatures and classifications.
- To review existing data structures and methodology for natural medical language processing.
- To study the needs of expert systems for the representation of medical knowledge.
- To eventually propose an ideal structural model for expressing medical concepts that would satisfy the needs of natural language analysis and the needs of expert systems designers for the representation of medical knowledge.
- To ensure that any system proposed would be easily transposed from the English working language to other national languages.
- To hold an international conference on the subject in approximately two years.

Minutes  
IMIA Working Group 11  
Washington D.C.  
4 November 1990

The meeting was called to order by chairman Salley at 17:10 in the TAFT room of the Sheraton-Washington Hotel.

1. Introduction of Members and Guests.

Members and guests were introduced and it was duly noted that Dr. Louis Abbey was absent due to his attendance at his induction into the International College of Medical Informatics. A list of those members and guests in attendance is attached as Appendix A.

2. The agenda was approved without specific additions.

Approval of minutes

The minutes of Glasgow, Scotland meeting of Working Group 11 were approved by voice vote.

4. Organizational Issues

a. Chairman Salley - requested confirmation of his appointments of Dr. Francois Duret as Vice Chairman and Dr. Eric Spohn as Secretary - Treasurer.

- Approved by voice vote.

b. Committee Assignments -

Chairman Salley discussed how temporary Committees were constituted. He noted that equitable geographic distribution was not the goal but function was. Dr. Wagner noted that the Committee assignments have been through 2 or 3 generations. (The most recent listing of Officers and Committees prior to this meeting is attachment B in this document.) After additional discussion chairman Salley asked Dr. Wagner to send a letter suggesting alternative committee membership and asked all members of committees who wished to be on other committees to make their requests in writing to the chairman.

Additional concern was raised by Dr. Eisner regarding the membership of the Standards Committees in the AADS, AMIA and IMIA organizations and the need for continuity. Dr. Schneider encouraged the committee to look at what was being done in Europe in regards to Standards to establish an immediate relationship with the "General Standards" representative.

5. Chairman Salley suggested that the DentInfo-91 Committee Report be the next item of business. Dr. Schneider - passed out drafts of the Agenda for DentInfo 91 and 1st draft of the call for papers.

a. Dr. Zimmerman lead a discussion of the "Announcement and Call for Papers" and the Agenda for DentInfo 91. He reviewed the time table required to make the conference occur on schedule. Dr. Schneider noted that not all persons on the Agenda had been invited yet and Dr. Wagner invited additional suggested presentors from those in attendance. Dr. Eisner expressed the need to define outcomes and plan the

meeting to produce recommendations. Dr. Zimmerman requested a "vote of confidence" for the program planning and agenda. The question was moved by Ms. Johnson, seconded by Dr. Kiser and approved by voice vote. Dr. Zimmerman then described where the announcement and call for papers would be sent.

- b. Dr. Schneider presented the organizing Committee Report. He provided a handout to summarize the budget for the DentInfo 91 meeting for discussion purpose. He noted that Stockholm County was donating the meeting facility. He noted that the handout only reflected part of the picture and that it was still necessary to raise at least \$55,000 U.S. He explained the "European Way" of obtaining sponsorship and read a draft of a letter which is to go to industrial representatives.

Dr. Salley asked that Dr. Schneider, Dr. Tamagawa and Dr. Spohn coordinate efforts to solicit multinational companies. A deadline between December 30 and January 30 was suggested as the latest date when all financing for the meeting must be secured. Dr. Tamagawa asked Dr. Schneider to obtain costs of advertising in the printed proceedings. A list of companies to be solicited in Sweden was requested of Dr. Schneider.

## 6. Committee Reports

- a. Executive Committee - Dr. Salley discussed the need to develop a strategic plan and indicated that a draft of a plan would be ready by the AADS meeting in March.

Dr. Salley then reviewed the 8 Goals and Objectives of IMIA to help all present to better understand the purpose of the organization and our Working Group 11.

- b. Finance Committee - Dr. Spohn shared his thoughts on how the finance committee could function. He suggested that the finance committees activities were dependent upon how Working Group 11 defined its goals and objectives in the Strategic Plan. Decisions related to dues, membership fees and membership levels would depend on how active the organization is and how it is to function.

In the interim Dr. Spohn noted that Dr. Salley had requested SWF 4000 from IMIA Central Office in accordance with the bylaws concerning Working Groups.

Dr. Eisner spoke of the need for WG11 to work on a few big projects rather than many smaller ones and suggested that the American Fund for Dental Health act as a focal point for U.S. funding. He also asked if WG11 could be considered a non profit organization. The answer was deferred.

Dr. Schneider described the history of IMIA and its origin from IFIP.

- c. Science and Technology Committee - Dr. Tamagawa

Dr. Tamagawa made a two part presentation on his views regarding the science and technology committee. The first part related to the long term outlook for the committee and he emphasized the need to develop software for dentistry. He suggested that the bottle neck was data entry and emphasized the need for global specifications. The second part of his presentation was an outline of a plan which included development of a data entry program with graphical user interface, with ASCII output which could interface with both Mac and DOS machines. He suggested that the source code should be open to everyone. A lively discussion followed.

Dr. Zimmerman commented that IMIA has a goal of assisting 3rd world countries to gain the benefits of activities such as Dr. Tamagawa proposed.

Dr. Wagner - commented that we need a work analysis of dental practice to determine what computers are needed for.

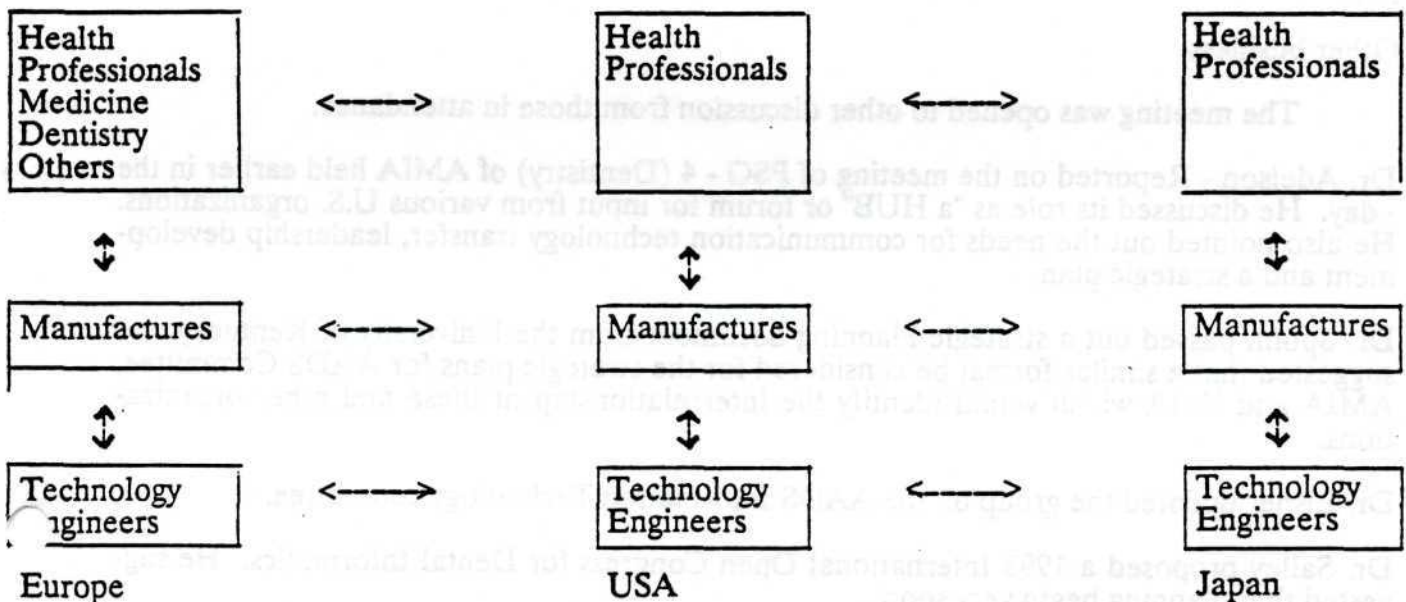
Dr. Salley - stressed the importance of the end user.

Dr. Larry Loeb (guest) - stated that he published an article in Byte magazine regarding the MAC computer, Dentistry and "voice navigator"

Dr. Adelson - suggested that we also need information about populations of patients, an issue above and beyond the individual practitioner.

d. Standards committee -

Dr. Tony Kiser presented a matrix for the flow of information regarding standards among health professional, manufacturers, and technology engineers as follows:



Dr. Kiser proposed that WGII organize an information Clearing House for "electronic" dental standards. He suggested that:

- a. standards setting organizations be identified and a calendar of meetings be established.
- b. WG11 members attend these various meeting and become involved in projects.
- c. a discussion board (electronic) be organized for questions and announcements.
- d. committee meetings be scheduled in conjunction with IMIA and component meetings.

Discussion followed:

Dr. Loeb - suggested using "Time Net" for global communications.

Dr. Eisner - informed the group that AMIA group had decided that a list server was needed. Dr. Zimmerman is pursuing that at the University of Maryland.

Dr. Zimmerman proposed that we look at commercial networks and that we establish a single standard for communications.

Dr. Schneider - stated that he wanted to nominate a Scandinavian to Dr. Kisers standards committee. He also maintained that he is editor of a computing magazine which would publish minutes of relevant meetings free of charge.

7. MEDINFO 92 Geneva

Dr. Salley informed the group that papers are being called for by the MEDINFO 92 organizing committee. He stated that a Dental Informatics session is being planned.

Dr. Abbey suggested that a dentist be appointed to the committee which is reviewing papers.

8. Other business:

The meeting was opened to other discussion from those in attendance.

Dr. Adelson - Reported on the meeting of PSG - 4 (Dentistry) of AMIA held earlier in the - day. He discussed its role as "a HUB" or forum for input from various U.S. organizations. He also pointed out the needs for communication technology transfer, leadership development and a strategic plan.

Dr. Spohn passed out a strategic Planning document from the University of Kentucky and suggested that a similar format be considered for the strategic plans for AADS Committee, AMIA and IMIA which would identify the interrelationship of these and other organizations.

Dr. Eisner updated the group on the AADS Information Technology committee.

Dr. Salley proposed a 1993 International Open Congress for Dental Informatics. He suggested that planning begin very soon.

Dr. Schneider - suggested that the meeting be held in conjunction with a large dental meeting FDI, ADA or a meeting in Japan were suggested.

Dr. Marino - asked how 3rd world countries would get involved. He noted that PAHO has a list of potentially interested participants.

Dr. Salley stated that IMIA has a 3rd world Health Care Committee and that we need to build a link to that Committee.

Dr. Kiser suggested that we need to keep Dr. Barmes of WHO informed of our activities.

Dr. Schneider suggested that we ask Dr. Barnes to help co-sponsor our next meeting with a portion of the meeting devoted to technology to link 3rd world countries.

9. The meeting was adjourned at 21:15.

# INTERNATIONAL MEDICAL INFORMATICS ASSOCIATION

Special Interest Group of the International Federation for Information Processing

Prof. Dr. John J. Salley  
Medical College of Virginia  
BOX 566, MCV Station  
Richmond, VA 23398-0566

Ref. : EC/JW/jt/91-135

Leuven, April 9th, 1991

Dear John,

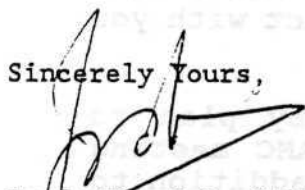
I have well received your memorandum of March 8th, 1991 with a copy of the FAX from Ina-Veronika Wagner and Werner Schneider. It is indeed a pity that DENTINFO '91 had to be cancelled.

I hope that you will be able to find an alternative soon and that you will keep the activities of your Specialist Interest group going.

During the IMIA Board meeting which was held in Bordeaux March 21-23rd, 1991 the Board has approved a grant of 2000 Swiss Francs in order to promote the activities of your group.  
Please send Prof. dr. ir. A. Bakker, IMIA Treasurer, Schipholweg 97, 2316 XA Leiden, The Netherlands the bankaccount on which he can transfer this money.

As you know, the next Board Meeting and General Assembly will be held in Washington DC, November 15th and 16th, 1991. For this meeting I would appreciate to receive a short report with the objectives and planned activities of your group. I would like to receive this report by September 15th, so that enough time remains to copy all documents and send it to the National Delegates.

Sincerely Yours,

  
Prof. Dr. J.L. Willems  
President of IMIA

c.c. Prof. dr. ir. A. BAKKER  
Prof. Dr. R. SALAMON

President: J.L. Willems (Belgium)  
Past-President: S. Kaihara (Japan)

Vice-President: F. Roger (EFMI)  
Vice-President: V. Yacubsohn (IMIA-LAC)  
Secretary: R. Salamon (France)  
Treasurer: A.R. Bakker (Netherlands)

Trustee: Z. Ouyang (PR China)  
J. Michel (GDR)  
M.J. Bail (USA)  
J.R. Scherrer (CH)  
J. Flint (Canada)



IFIP



IMIA

IMIA Secretariat: c/o IFIP Secretariat, 16 Place Longemalle CH-1204 Geneva, Switzerland





Medical College of Virginia  
Virginia Commonwealth University

MEMORANDUM

TO: IMIA WORKING GROUP 11

FROM: DR. JOHN SALLEY  
CHAIRMAN

DATE: JULY 19, 1991

I am writing to bring you up to date on some recent developments in our working group.

The principal piece of information I wish to communicate is the affirmative response I have made to an invitation from the planners of MEDINFO '92 to hold a workshop session on Dental Informatics. MEDINFO '92 is scheduled to be held on September 6-10, 1992 in Geneva, Switzerland. Dr. Veronica Wagner of Uppsala, Sweden has graciously consented to chair the Planning and Implementation Committee for the Dental Informatics Workshop. With this memorandum, I am requesting the following persons to serve as members of Dr. Wagner's Planning and Implementation Committee:

- Dr. Louis M. Abbey, Richmond, VA, USA
- Dr. Mark Braem, of Antwerp, Belgium
- Dr. Thomas Marthaler, Zurich, Switzerland
- Dr. Eric Spohn, Lexington, Kentucky, USA

I am sure this group will do a fine job in planning what we all hope will be a landmark session on dental informatics at the international level. For those who have been asked to serve on a committee, I anticipate that Dr. Wagner will be in contact with you very soon.

The other information of interest to WG-11 is my plan to schedule our next meeting in conjunction with the SCAMC meeting scheduled for Washington on November 17-20, 1991. In addition to a progress report from Dr. Wagner and her group, I plan to ask the working group to examine other international activities appropriate to our purpose. I will advise you of the time and place when these arrangements have been made.

Thank you for your continued participation and interest in IMIA Working Group 11.

Best wishes.

CC: Dr. Marion Ball  
Dr. Werner Schneider  
Dr. Jos Willems ✓

## **WORKING GROUP 12: HEALTH INFORMATICS**

### **Informatics for Health Evaluation, Monitoring and Recording**

#### **INTRODUCTION**

In the second half of the twentieth century biomedical knowledge has increased dramatically. The application of this knowledge to health evaluation and monitoring, by both the health practitioner and an increasingly informed citizenry, has been fully affected by this knowledge expansion. Furthermore, there is rapid expansion in the number, detail and quality of the data bases that trace the natural course of health (including normal development, aging and decline), that characterize the trajectories of life following the resolution of major clinical events, and that describe the paths associated with stable chronic disease. The ultimate beneficiaries of the knowledge derived from these data are the world's citizens; however, as the challenge of management of health information is addressed, it becomes clear that organizing, managing and applying this vast and everchanging knowledge base have themselves become significant problems. Surely, the most effective and practical way to meet the challenge is through more refined and extended applications of modern information technology.

#### **DEFINING HEALTH INFORMATICS**

The evolution of Health Informatics began soon after that of its parent, Medical Informatics, particularly through the development of Periodic Automated Multiphasic Health Testing, of Health Risk Appraisal and of Health Status Assessment in the early to mid 1960s. The development of lifelong records of these observations as a Personal Health Record has been somewhat more spotty, depending on the medical care and public health traditions of different countries and cultures, and has been integrated in varying degrees with notions of the portable medical record. Necessarily, the interface between the personal health record of enhanced as well as diminished health and fitness, or wellness, and the clinical record will continue to be idiosyncratic and situation dependent for some time to come as parallel development continues. However, ultimate convergence seems likely with the development of integrated longitudinal data bases reflecting degrees of health and disability, as well as of mortality, as, for example, in health outcome studies.

A number of factors contribute to the growing need for individuals and health and medical advisors to rely upon electronic health data bases and knowledge bases. Newly decipherable genetic endowments will have an increasing impact on clinical, occupational and lifestyle decisions; health issues are being managed more selectively as fundamental understanding of human biological individuality unfolds. Healthy individuals as well as patients are taking, and practitioners are prescribing, more medications; further, clinical management draws increasingly upon complex and powerful regimens whose beneficial effects must often be balanced against profound risks. As patients, individuals are increasingly ambulatory and carry more complex health histories than ever before, some of which is associated with shifting population demographics and aging. Increasingly, individuals bring long term stabilized problems, compromised immune systems and artificial or transplanted organs when seeking medical help. The need for consultation and referral is increasing as is the necessity to obtain technical procedures of increasing

elegance, either on routine periodic bases or for the investigation of clinical events. Complex and population dependent interpretation of test findings is now demanded in terms of health issues which are themselves described with increasing refinement in an increasingly mobile population. Finally, there is concomitantly a growing trend for health literate lay individuals to assume more responsibility for their own health - in this sense, all are patients.

For these and other reasons, informatics will play an enhanced role in health decision making at every level of public and private life -- self-management, clinical practice, education, research, health policy and the progressive integration of these.

## **ORGANIZING HEALTH INFORMATICS**

The following chronology briefly describes some of the activities directed toward developing health informatics as a discipline within the broad field of medical informatics. This review will touch on the key technologies and informatics systems proposed for incorporation into the domain of a Working Group on Health Informatics within the International Medical Informatics Association: (1) automated multiphasic health testing (AMHT), (2) health risk appraisal (HRA), (3) health status assessment and (4) the personal health record. Associated with each of these initiatives there have often been interest groups concerned with specific subpopulations, as with children, the elderly, occupational and military groups and the like, and with clinical preventive medicine applications often in areas characterized as "wellness" and health promotion. Though there thus are a number of organizations whose interests are focused on one or more of these groups, the following summary will concentrate on organizations whose orientation is primarily to the development of informatics systems rather than to the populations that may be served by these systems. Furthermore, this synopsis is biased in some areas toward the U.S. experience, with a resulting hiatus of valuable experience that we hope to bridge through development of the proposed international Working Group.

The interest spawned by the development of **automated multiphasic health testing** subsystems as a component of prepaid health care systems in the United States during the mid-1960's resulted in several Research Conferences sponsored by the Engineering Foundation and some co-sponsoring organizations. This activity spread internationally, to include a Foundation sponsored meeting in Davos, Switzerland in 1970, one of the co-sponsors of which was the Society for Advanced Medical Systems (SAMS). The later merger of SAMS with the Society for Computer Medicine in 1982 formed the American Association of Medical Systems and Informatics, predecessor of the American Medical Informatics Association (AMIA), with its International Affairs Committee chaired by Dr. Marion Ball.

Another co-sponsor was Searle Medidata, Inc., which then lent its support to the formation of the International Health Evaluation Association (IHEA) in 1971. IHEA is composed of three regions - the Western Hemisphere, Europe-Middle East-Africa, and Asia-Pacific. In addition to regional meetings, IHEA holds biennial international meetings, the most recent of which was in La Jolla, California in September 1990, preceded in the past five years by other international meetings in London and Kona. Participants at the La Jolla meeting were from Europe, Japan, the Middle East, Africa, Brazil and the USA. The next IHEA international meeting is scheduled near and immediately preceding the

MEDINFO'92 Congress in Geneva. The proceedings of each conference are published shortly after the event - the organization produces no periodic journal, though regional periodic newsletters, some containing outstanding professional papers, are published in the U.S. and in Japan. In addition to automated multiphasic health testing as originally conceived, IHEA interests now include high technology evaluation and monitoring of the apparently healthy (as with periodic cardiac PET imaging of executives in some contexts), the personal health and fitness record, and health risk appraisal. In the U.S., there is significant congruence of interests and membership between Region 1 of the IHEA and the Professional Specialty Group on Health Evaluation Technology (PSG-8) of the AMIA.

The development of health hazard or **health risk appraisal** in the mid-1960's led to the formation of the Society for Prospective Medicine (SPM) in the United States; this organization has since held annual meetings, all in the U.S., the last (24th) in Mesa, Arizona in October, 1990. Although this organization has long had an International Affairs Committee, discussion of the now abundant health risk appraisal activities outside the U.S. has tended to be incorporated more into the automated multiphasic health testing conferences of the IHEA or into international meetings oriented to specific areas of application, including those devoted to "wellness" and health promotion, rather than meetings focusing on methodologic issues and informatics development. In addition to published proceedings of each conference, the Society produces a quarterly newsletter largely composed of submitted material descriptive of methodology and programs.

Discussion of **health status assessment** had proceeded as a minority interest of several member organizations and conferences until the convening and publication of focused discussion under the auspices of the Institute of Medicine of the National Academy of Sciences of the United States, the second of which is scheduled for September of 1991. The designation "health status assessment" has arisen with less emphasis on technology than on means for profiling and summarization of diminished functional status, though technologic approaches here have been particularly important in occupational medicine.

There have been no major organizations that have had notions of a **personal health record** as a dominant theme of their activities and interests. However, in some countries, in the military and some largely international business organizations, individuals are responsible for the stewardship of their own portable medical records - or those of their families. The American Medical Record Association has also had some activities devoted to patient maintained records, and some prominent physicians have long advocated one or another variants of such an approach. In addition, growing interest is evident in the several groups that have sponsored meetings to discuss the potential media that may be involved, such as various "smart cards", some of which have also been concerned with medical record organization and user interaction.

From the above it is evident that the momentum of activities concerned with health informatics is increasing and a critical mass of interested and capable individuals can be identified. The purpose of this proposal is to put before the General Assembly of IMIA a plan for health informatics, international in scope, to be developed by IMIA Working Group 12: Health Informatics.

## **WORKING GROUP 12 ACTIVITIES**

The initial activities proposed for Working Group 12 may be described in terms of objectives, membership, scheduled planning meetings and projected activities.

### **Objectives:**

- Identify and define the elements which constitute the field of health informatics and how they can impact on practice, education and research in the areas of health evaluation, monitoring, promoting, educating and recording. Initial attention is focused on:
  - Periodic health examination, as with automated multiphasic health testing.
  - High technology approaches to health evaluation.
  - Health risk appraisal, not only stand-alone but also as a means for communicating to the individual the meaning of periodic test results and recorded health history.
  - Health status assessment and functional evaluation.
  - The personal health record, perhaps partially self-recorded for oneself and/or one's family, as prompted by appropriate user software.
- Explore the application of these health evaluation approaches to specific populations (children, adults, elderly) according to demographic, occupational and other relevant descriptors.
- Spur the application of these technologies to the characterization and description of health as found in studies of fitness and sports medicine, occupational health, stress management, genetic, environmental and geographic health, nutritional practices and health promotion.
- Identify and involve individuals who are leaders in research, development and application of health informatics in all sectors of health evaluation, monitoring and recording, and in relevant areas of preventive, rehabilitative, occupational and sports medicine.
- Identify areas in health informatics and medical informatics where joint ventures can develop between individuals, other health professionals, organizations, institutions and nations in order to expand the field.
- Identify specific areas of research and development to expand the knowledge base of health informatics and its interface with the parent field of medical informatics.
- Explore means for summarizing the medical account of clinical events so that the salient features may be incorporated into a continuing lifelong health record.
- Promote the utilization of information technologies in all sectors of the health evaluation and health education professions.
- Encourage the development of standards, nomenclature and coding schemes to promote the geographic and temporal comparability of data.

- Support the development, analysis and visualization of data bases characteristic of healthy growth and development, the common functional declines associated with aging and the natural history of disease following resolution or stabilization.
- Invite the discussion of ethical issues, confidentiality, and the appropriateness of accreditation in the development of specific elements of health informatics programs.
- Promote training programs to increase the number of health informaticians.
- Maintain liaison with appropriate national and international organizations with an interest in health informatics.
- Plan and sponsor meetings, conferences and symposia to focus on definition, research, education, development and applications of health informatics.

#### **Membership:**

It is proposed that Working Group 12 consist of 20 to 30 members with the widest relevant domain and geographic representation possible. Initially, four to five North Americans are under consideration along with several each in Europe, the Middle East, Africa, the Asia and Pacific regions, and the Americas outside of North America.

A Chair and a Co-Chair are proposed for program planning for an initial meeting near Geneva in 1992. Dr. Ben Williams of Urbana, Illinois and Dr. Patricia Last of London are well known health informaticians on both sides of the Atlantic who have made substantive contributions to health informatics and have demonstrated effective leadership in this field. They can complement each other programmatically and geographically in building a strong series of programs.

#### **Scheduled Planning Meetings:**

Whenever possible Working Group 12 working conferences will be scheduled in conjunction with other conferences and meetings. At the November 1990 SCAMC meeting, there was proposed a schedule for program and organizational planning for the initial meeting in conjunction with the MEDINFO 92 and IHEA meetings in Geneva, to comprise the first Working Conference of Working Group 12.

Planning meetings will be held during the regional IHEA meetings in Chicago in September 1991 and in Japan some time during 1991, as well as during the AMIA/PSG-8 meetings in San Francisco in June 1991 and in Washington DC in November 1991. Following current exploratory discussions, collaboration of the Society for Prospective Medicine will be secured at its Knoxville meeting in October 1991.

### **Budget:**

A budget for the first Working Conference, based on past IHEA experience, is projected around US \$ 40,000 to include travel and meeting expenses for approximately 20 invited participants who would not otherwise have support for participation. Support is being sought, in several currencies, from informatics vendors, pharmaceutical manufacturers and finance and insurance companies.

### **Projected Activities:**

Clearly, there are a number of areas in health evaluation and lifelong health monitoring which can benefit directly from application of currently available information technologies. Indeed, a number of preventive medicine practitioners in the Americas, Europe, Asia and Africa are already involved with a variety of interesting initiatives in health informatics. For example:

- Automated multiphasic health testing systems - with improved and advanced technology.
- Health risk appraisal, now including morbidity as well as mortality risk estimation, and now accommodating past history of significant clinical events rather than routine presumption of prior good health.
- Health status assessment, including baseline functional appraisal and monitoring.
- The lifelong personal health record.

Around these core issues that now define the field of health informatics there are a number of individuals with interests in corollary initiatives that may be explored, such as:

- Prompts for examination, testing and immunization of groups defined demographically and by past medical history.
- Protocols for patient self-examination, self-triage and self-care.
- In the U.S., an electronic portable patient record is under development designed to function with patient data entry standards. In the future the record should be interfaced with decision support systems, themselves linked perhaps to personal health record systems and the ambulatory care systems of the physician.
- Electronic expert advice rules, which first made an appearance in clinical systems in the automated multiphasic health testing environment when used for the monitoring of healthy adults and for the triage of those seeking medical attention.
- Means for summarization of records of clinical events in terms of long-term impact on health status and future medical care.

- The integration of intergenerational and obstetric records into the personal health record.
- Broadly defined health problem oriented curricula for health informatics.
- Clinical image management within portable patient health records.
- Nomenclature and coding of health risk factors, enhanced and diminished functionality, clinical findings including their temporal patterns, periodic health monitoring recommendations and intervals, and the coding of preventive interventions.

Working Group activities in these and other corollary areas will clearly depend on the interests and initiatives of the members of Working Group 12 as it is constituted and evolves.

## CONCLUSIONS AND RECOMMENDATIONS

While these initiatives show great promise, their value should be enhanced if those developing them can form synergistic relationships. The International Medical Informatics Association is an appropriate organization to promote needed cross-communication, information sharing, and collaboration. The long-range result should be improved individual health evaluation and monitoring, health status assessment, health promotion and monitoring, and personal and patient record keeping.

It is respectfully requested that the General Assembly approve 1) the establishment of Working Group 12: Health Informatics, with the objectives and activities outlined above, and 2) the appointment of Dr. Ben Williams as Chairman of Working Group 12.



# INTERNATIONAL MEDICAL INFORMATICS ASSOCIATION

Special Interest Group of the International Federation for Information Processing

To Ben WILLIAMS, M.D.  
Regional Health Research Center  
Pathology  
1408 W. University  
Urbana, Illinois 61801  
U.S.A.

EC/JW/vd/91-175a

Leuven, April 15th, 1991

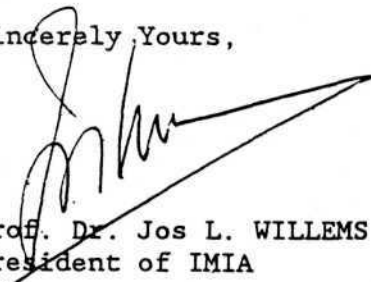
Dear Dr. Williams,

Your proposal for setting up a Working Group in IMIA on "Health Informatics : Informatics for Health Evaluation, Monitoring and Recording" has been discussed by the Board of IMIA, during a recent meeting in Bordeaux.

The Board appreciates your initiative. However, several members felt that the objectives were too broad and that the scope should be narrowed if the proposal is to succeed. Some were confused by the title of "Health Informatics", which in Western Europe and some other parts of the world has a much wider connotation than "multiphasic health screening".

I would appreciate it very much if you could further discuss your proposal with Dr. Marion Ball and eventually other people, in order to trim it down to "multiphasic health screening and health status/risk appraisal".

Sincerely Yours,

  
Prof. Dr. Jos L. WILLEMS  
President of IMIA

cc. : Dr. Marion Ball  
Prof. Dr. R. Salamon

President: J.L. Willems (Belgium)  
Past-President: S. Kathara (Japan)

Vice-President: F. Roger (EFMI)  
Vice-President: V. Yacubsohn (IMIA-LAC)  
Secretary: R. Salamon (France)  
Treasurer: A.R. Bakker (Netherlands)

Trustee: Z. Ouyang (PR China)  
J. Michel (GDR)  
M.J. Ball (USA)  
J.R. Scherrer (CH)  
J. Flint (Canada)



IFIP



IMIA