A Short Factography About IMIA and EFMI

Jacob Hofdijk1,2, Patrick Weber2, John Mantas2, George Mihalas2, Izet Masic2
Partner in Casemix, Oegstgeest, The Netherlands1
European Federation of Medical Informatics, Geneva, Switzerland2
Corresponding author: Jacob Hofdijk. E-mail: jhofdijk@gmail.com

1. A SHORT FACTS ABOUT IMIA

1.1. IMIA: The International Medical Informatics Association

The International Medical Informatics Association (IMIA) (Figure 1,2,3,4,5) is the world body for health and biomedical informatics. IMIA acts as a bridging organization, bringing together the constituent organizations and their members (1-5).

1.2. The historical development of IMIA

IMIA was originally established in 1967 as Technical Committee 4 of the International Federation for Information Processing (IFIP) (1). IFIP is a non-governmental, non-profit umbrella organization for national societies working in the field of information processing (2). IMIA was established in 1960 under the auspices of UNESCO as a result of the first World Computer Congress held in Paris in 1959. In 1979, it evolved from a Special Interest Group of IFIP to its current status as a fully independent organization. IMIA continues to maintain its relationship with IFIP as an affiliate organization. IMIA also has close ties with the World Health Organization (WHO) as a NGO (Non Government Organization), and with the International Federation of Health Information Management (IFHIMA) (1). In 2001 the International Medical Informatics Association (IMIA) approved the establishment of a Medical Informatics Award of Excellence named “Morris Collen Award” (“The Father of Medical Informatics”) (3) to be given every three years to an individual, whose personal commitment and dedication to medical informatics has made a lasting contribution to medicine and healthcare through her or his achievements in research, education, development or applications in the field of medical informatics. The first award was given in 2004 to François Grémy, then, Marion Ball, Donald Lindberg, Edward Ted Shortliffe, Jean Raoul Scherrer, etc.

1.3. Purpose, Goals, Objectives

The basic goals and objectives of the association are to (1):
- promote informatics in health care and research in health, bio and medical informatics.
- advance and nurture international cooperation.
- to stimulate research, development and routine application.
- move informatics from theory into practice in a full range of health delivery settings, from physician’s office to acute and long term care.
- further the dissemination and exchange of knowledge, information and technology.
- promote education and responsible behaviour.
- represent the medical and health informatics field with the World Health Organization and other international professional and governmental organizations (1).

In its function as a bridge organization, IMIA’s goals are (1):
- moving theory into practice by linking academic and research informaticians with care givers, consultants, vendors, and vendor-based researchers.
- leading the international medical and health informatics communities throughout the 21st century.
- promoting the cross-fertilization of health informatics information and knowledge across professional and geographical boundaries.
- serving as the catalyst for ubiquitous worldwide health information infrastructures for patient care and health research (1).

1.4. Membership

Generally, membership to IMIA is limited to organizations, societies, and corporations. Member Societies: In each country, one society or a
group of societies or an appropriate body which is representative of activities within the field of medical informatics may become a Member Society. In an country where no representative societies exist, IMIA accommodates involvement through “Corresponding” members, especially within developing countries. IMIA Member Societies may organize into regional groups (i).

Currently, 54 societies joined the IMIA, and are named as presented on Table 1.

Institutional Members: there are two categories, corporate and academic members. Corporate members include vendor, consulting, and technology firms as well as national professional organizations. Academic members include universities, medical centres, research centres and like institutions (i).

- American Health Information Management Association (AHIMA)
- Health On The Net Foundation (HON)
- Healthcare Information & Management Systems Society (HIMSS)
- IBM Corporation
- Schattauer GmbH
- Siemens Medical Solutions

Affiliate Members: international organizations that share an interest in the broad field of health and biomedical informatics (i)

- International Federation for Information Processing
- International Federation of Health Information Management (IFHIMA)
- World Health Organization

Honorary Fellows: these are individuals who have demonstrated exceptional merit in furthering the aims and interests of IMIA; Fellowship is conferred for life (i).

1.5. Governance

IMIA is governed by its General Assembly, which comprises one representative from each IMIA Member, Honorary Fellows, Chairs of IMIA’s Working and Special Interest Groups and a representative from IFIP, the World Health Organization, and each of IMIA’s Regions. Only IMIA Member Societies have full voting rights. The General Assembly meets annually; it meets at Medinfo in the years that a Medinfo event is held, and general at other major events in non-Medinfo years (i).

Figure 1. First Presidents of IMIA: Francois Gremy (1968-1975), Jan Roukens (1975-1980), David B. Shiers (1980-1983)

1.6. IMIA Presidents

The Officers, i.e. the President, Secretary and Treasurer, shall be elected by the General Assembly from among its Member Societies (not necessarily their ap-
Figure 2. IMIA General Assembly, Dresden (Germany), 23.9.1994.
pointed representatives). The President has the right to appoint a permanent alternate from among members of the Board during his/her term of office (4). (Table 2).

**IMIA activities during presidency of Shigekoto Kaihara**

When Shigekoto Kaihara became a President of IMIA in 1986, he was confronted with the following two issues that required a certain amount of consideration. First, whether medical informatics was in fact an independent scientific entity, and second, how it could be transformed into an international organization, as the name indicated. In 1986, IMIA was not an independent organization; instead, it was a part of the IFIP and was known as a Special Interest Group (SIG) of IFIP. During the IFIP GA meetings, Shigekoto Kaihara realized that the IFIP GA was more interested in IMIA’s budget as opposed to its scientific contents. IFIP was involved in computer technology, while IMIA was concerned with its medical applications. Consequently, the president of IMIA thought it would be more beneficial, if both organization became independent. Mr. Aage Melbye and Shigekoto Kaihara submitted the proposal to the IFIP GA in 1987. The proposal had been approved by IFIP. In 1986, IMIA was still a European-based organization. Most of the administrative and scientific activities such as board meeting and working conferences were held in European countries. At the time, members of IMIA that implicitly believed that medical informatics could only be applied to developed countries. However, Dr. Salah Mandil, from WHO; always stated that medical informatics should also be applied to developing countries since it has the potential of tackling their health issues. Since Shigekoto Kaihara held the same opinion as Dr. Mandil did, he decided to test this concept by organizing as many activities as possible in those countries, where informatics was in nascent stage. Subsequently, the IMIA board meetings were held in Beijing, East Berlin, and Rabat in Morocco. Further, in 1990, when Dr. Marion Ball was President of IMIA, Shigekoto Kaihara help her to organize a meeting in Tbilisi in the Georgian Republic with the help of Prof. Gayos Sh. Vasadze. However, the Beijing MEDINFO in 1989 was particularly eventful. The organizing committee chaired by Mr. Ouyang worked extremely hard for two and half years in order to make this conference a success. The Tiananmen Square Incident took place in 1989. Soon after that Shigekoto Kaihara began receiving a hundred letters from participants stating that they would be unable to attend the MEDINFO in China and that IMIA should hold the meeting in some other city. After considerable deliberation, it was decided that the first part of the conference should be held in Beijing, but the second part will be held in Singapore for those, who would be unable to participate in the Beijing MEDINFO. The Beijing MEDINFO as well as the Singapore MEDINFO were equally successful. More than 600 participants attended to each conference. After this experience, IMIA has evolved into a strong international organization based on the mutual trust and friendship of all members across the globe (6).

**IMIA activities during presidency of Marion J. Ball**

At the conclusion of MEDINFO 92 in Geneva, Marion J. Ball received the gavel from Jos Willems. Soon she faced a crisis when Brasil withdrew as the site for MEDINFO.
95. She turned to her colleagues and the IMIA members, and Canada took on the challenge of hosting an international congress with only two years lead time, thanks to Kathryn Hannah and Steve Huesing. With the guidance of the board, IMIA distributed governance to five new vice presidents and implemented Jos Willems’ vision of a professionally-run organization with a permanent secretariat. To make IMIA a bridge organization across sectors and regions, she worked to create institutional membership, make IMIA more visible in the USA and foster working conferences. She was also able to lend support to the Asia Pacific Association for Medical Informatics (APAMI), newly and successively formed by KC Lun. With the support of board, she was able to make a substantive progress in key areas, including strengthening IMIA organizationally and fostering health informatics regionally. As IMIA’s first President from the USA, she was determined to give IMIA more visibility in the USA and the Americans. During her Presidency, IMIA sponsored four working conferences in the USA. One of these focused on organizational issues, one on nursing informatics, and a third on hospital information systems. The fourth, which she co-chaired, focused on health professional workstations; its findings have served as a roadmap for many of the advanced made in the years since then. She brought AMIA and IMIA closer together. In supporting regionalism, the spring 1995 board meeting was held in conjunction with InfoMedica, sponsored by the Mexican Medical Informatics Association and IMIA-LAC; and IMIA-LAC obtained funding from the Kellog Foundation for 10 Latin American fellows to attend MEDINFO in Vancouver, Canada. She and her fellow boardmembers also did all we could to support informatics in Africa. The designation of Helina as its regional group came after her presidency, but she has been involved in encouraging its advocates. Recent developments as a result of meeting in January 2007 in Mali have solidified Helina, and Sedick Isaacs has accepted the first presidency.

**IMIA activities during presidency of Jan van Bemmel**

Jan van Bemmel’s interest in the upcoming field of medical informatics was much reinforced after having attended in 1996 the very first European conference on computers in medicine, held in Elsinore where he met for the first time people like Hubert Pipberger and Cesar Caceres, who had started a few years earlier the computer processing of electrocardiograms. From then on he collaborated closely with Hubert over many years. Making international bridges is one of the great advantages of an association like IMIA. He started to use computer in 1963 for biomedical research and clinical applications. He received in 1967 a grant from WHO to describe the state of affairs of computers in European hospitals. In the mean time, they established in 1970 in the Netherlands one of the first European professional societies in the medical informatics, the Vereniging (Society) for Medical and Biological Information processing, VMBI. Jan Roukens became its first chairman and Jan van Bemmel its second. A most interesting period for him was the editing of IMIA’s Yearbooks, a job done together with Alexa McCray, and with the help of many others colleagues. During the years 1992-2000. Since then, Reinhold Haux and Casimir Kulikowski have taken over the Yearbooks. His Presidency started in Seoul, Korea and ended in London, UK. He wrote a song that was performed by about 50 of IMIA’s officials at the great conference dinner during MEDINFO 98 in Seoul.

During the period 1998-2001, he defined a short agenda for IMIA, having a roadmap in mind, consisting of the following elements:

- Strengthen IMIA as professional organization;
- Build bridges to other organizations;
- Tap the experience of former officers and honorary members;
- Make IMIA better visible to the outside world;
• Make MEDINFOs still better and MEDINFO 2001 the largest ever.
• During his serving IMIA, they established a true Permanent Office.
  The IMIA office is now involved in:
  • giving assistance to IMIA’s Board and General Assembly,
  • long-range planning; preparation of policy and its execution,
  • with member societies, working groups, and affiliated societies,
  • facilitation of regional and working conferences, consultation activities, and MEDINFOs,
  • contacts with and giving service to industrial and academic institutional members,
  • publications, newsletters, Yearbooks, conference proceedings, etc.,
  • promoting medical/health/nursing informatics to industry,
  • raising financial resources from IMIA services and activities.

At the end of his presidency, MEDINFO 2001 took place in London at a very new venue in the Docklands. The conference was a great success. In London he handed the gavel to his successor, K.C. Lun from Singapore (6).

1.7. Activities

IMIA organises the internationally acclaimed triennial “World Congress on Medical and Health Informatics” - commonly know as MEDINFO. IMIA’s triennial world congresses for biomedical and health informatics became the centerpiece of a broad range of IMIA conferences. The IMIA Yearbook of Medical Informatics, founded in 1992, showcases contributions from the best state-of-the-art research, and has become one of the most visible and valuable IMIA publications, drawing on, and adding to the great and impressive variety of books, proceedings and journal articles produced under IMIA sponsorship (6). (Table 3.4.5)

| PLACE          | YEAR |
|----------------|------|
| Stockholm      | 1974 |
| Toronto        | 1977 |
| Tokyo          | 1980 |
| Amsterdam      | 1983 |
| Washington     | 1986 |
| Beijing/Singapore | 1989 |
| Geneva         | 1992 |
| Vancouver      | 1995 |
| Seoul          | 1998 |
| London         | 2001 |
| San Francisco  | 2004 |
| Brisbane       | 2007 |
| Cape Town      | 2010 |
| Copenhagen     | 2013 |
| San Paolo      | 2015 |
| Beijing        | 2017 |

Table 3. IMIA MEDINFO Conferences 1974-2017

| YEAR | TOPIC |
|------|-------|
| 1992 | Advances in an Interdisciplinary Science |
| 1993 | Sharing Knowledge and Information |
| 1994 | Advanced Communications in Health Care |
| 1995 | The Computer-based Patient Record |
| 1996 | The Integration of Information for Patient Care |
| 1997 | Computing and Collaborative Care |
| 1998 | Health Informatics and the Internet |
| 1999 | The Promise of Medical Informatics |
| 2000 | Patient-centered Systems |
| 2001 | Digital Libraries and Medicine |
| 2002 | Medical Imaging Informatics |
| 2003 | Quality of Health Care: Information Foundations |
| 2004 | Towards Clinical Bioinformatics |
| 2005 | Ubiquitous Health Care Systems |
| 2006 | Assessing Information Technologies for Health |
| 2007 | Sustainable Health Systems through Biomedical Informatics |
| 2008 | Access to Health Information |
| 2009 | Closing the Loops in Biomedical Informatics |
| 2010 | Biomedical Informatics: Building Capacity Worldwide |
| 2011 | Towards Health Informatics 3.0 |
| 2012 | Personal Health Informatics |
| 2013 | Evidence-based Health Informatics |

Table 4. IMIA Yearbooks of Medical Informatics Topics

1.8. In Closing

Medical informatics as a discipline is still young. Today, as a cross-sectional discipline, it forms one of the bases for medicine and health care. As a consequence considerable responsibility rests on medical informatics for improving the health of people, through its contributions to high-quality, efficient health care and to innovative research in biomedicine and related health and computer sciences. The role of IMIA, the International Medical Informatics Association, for building a coope-
A Short Factography About IMIA and EFMI

Health care continuously changes as the underlying science and practice of health are in continuous transformation. Medical informatics as a discipline is strongly affected by these changes and is in a position to be a key, active contributor in these changes (5).

2. A SHORT FACTS ABOUT EFMI

The European Federation for Medical Informatics (EFMI) (Figure 6,8) is a non-profit scientific and professional organization established by the Regional Office for Europe of the World Health Organization (WHO), in Copenhagen in September 1976 (7). EFMI concerns the theory and practice of information science and technology within health science in a European context. Today, EFMI consists of 31 national members. EFMI Board are: President, Vice-President, Vice-President IMIA, Secretary, Treasurer, Executive officer, Information officer, Laison officer. Council members are representatives from all EFMI members countries. Former Presidents of EFMI are presented on Table 6.

2.1. Purpose, goals and organizational structure

The objectives of EFMI are:

- To promote research and development in medical informatics;
- To encourage high standards in education in medical informatics;
- To function as the autonomous European Regional Council of IMIA (International Medical Informatics Association) (1).

Table 5. National representatives at IMIA General Assembly

| Country          | Representative | Institution                                                                 |
|------------------|----------------|------------------------------------------------------------------------------|
| Austria          | Elke Ammenwerth | University for Health Informatics and Technology Tyrol                       |
| Belgium          | Etienne De Clercq  | Catholic University of Louvain                                              |
| Bosnia-Herzegovina | Izet Masic   | Medical Faculty Sarajevo, Bosnia & Herzegovina                              |
| Croatia          | Nina Hercigonja-Szekeres | Hospital Zagreb Polytechnic Croatia                                   |
| Cyprus           | Antonios Jousif  | The Cyprus Society of Medical Informatics                                    |
| Czech Republic   | Jana Zvarova    | EuroMise Centre                                                              |
| Denmark          | Stig Kjaer Andersen | The Aalborg University                                                        |
| Finland          | Pirkko Nakaren  | SIAME Unit for eHealth and eEfficiency                                       |
| France           | Brigitte Serassi | ARB Association d’Informatique Medicale                                      |
| Germany          | Prof. Dr. Alexander Horsch | TUM Technische Universität München                                       |
| Greece           | John Mantas     | The National and Kapodistrian University of Athens                          |
| Hungary          | Susan Gyergy    | National Institute for Strategic Health Research                            |
| Ireland          | Anna Hartstedt  | Landskrapital                                                                |
| Ireland          | Gerard Hart     | The Healthcare Informatics Society of Ireland                                |
| Israel           | Assa Reichert   | SAREL Supplies & Services for Medicine Ltd.                                  |
| Italy            | Cristina Mazzoleni | Fondazione Scuola Mediterranea, Scuola del lavoro e della riabilitazione |
| Moldova          | Victor Vives    | State Medical and Pharmaceutical University “N. Testenitara”                  |
| Netherlands      | Ronald Cornel   | University of Amsterdam                                                       |
| Norway           | Anne Moen       | Norwegian Society for Medical Informatics                                     |
| Poland           | Edward Rakic    | The Technical University of Lutsk (Politechnika Lutsk)                       |
| Portugal         | Alfonso da Costa Pereira | Faculty of Medicine of Oporto University                                 |
| Romania          | George Mihalas  | The Victor Babes University of Medicine and Pharmacy of Timisoara             |
| Russian Federation | Michael Shifrin | N. N. Burdenko Neurosurgical Institute                                       |
| Serbia           | Vesna Udovic    | Institute for Public Health of Serbia                                        |
| Slovenia         | Andrei Orel     | Marad Learing d.o.o.                                                         |
| Spain            | Carlos Luis Paia Caldwell | Sociedad Española de Informática de la Salud                                |
| Sweden           | Ragnar Norberg  | Karolinska Institut                                                          |
| Switzerland      | Prof. Christian Louis | University Hospital of Geneva                                               |
| Turkey           | Osman Saka      | Abma University, Antalya                                                     |
| Ukraine          | Olga Mogrove    | The Ukrainian Association of Computer Medicine                               |
| United Kingdom   | Simon de Lusignau | Primary Care Informatics Division of Community Health Sciences St. George’s–University of London |

Table 6. EFMI Presidents 1968-2014

| Year    | President             | Country    |
|---------|-----------------------|------------|
| 1976-1977 | Antoine Remond      | France     |
| 1978-1980 | Peter L. Reichertz  | Germany    |
| 1981-1983 | Barry Barber         | United Kingdom |
| 1984-1986 | Francis Roger France | Belgium    |
| 1987-1990 | Rory D’Moore         | Ireland    |
| 1991-1992 | Stefan Bengtsson     | Sweden     |
| 1993-1994 | Rolf Hanson          | Norway     |
| 1994-1995 | John Briant          | United Kingdom |
| 1996-1997 | Jean-Raoul Scherrer  | Switzerland |
| 1998-1999 | Attila Naszady       | Hungary    |
| 2000-2002 | Rolf Engelbrecht    | Germany    |
| 2002-2003 | Assa Reichert       | Israel     |
| 2004-2005 | Robert Baud         | Switzerland |
| 2006-2008 | George Mihalas      | Romania    |
| 2009-2010 | Jacob Hofdiik       | Netherlands |
| 2011-2012 | John Mantas         | Greece     |
| 2013-2014 | Patrick Weber       | Switzerland |
in teaching medical informatics in their homeland as well as on international courses. EFMI has next working groups: Education in Health Informatics - ‘EDU’; Electronic Health Records - ‘EHR’; Evaluation and Assessment of Health Information Systems - ‘EVAL’; Health Informatics for Interregional Cooperation - ‘HIIC’; Health Information Management - ‘PG HIME’; Human and Organisational Factors of Medical Informatics - ‘HOFMI’; Informatics for Disabled People and Rehabilitation - ‘IDR’; Libre/Free and Open Source Software - ‘LIF OSS’; Medical Imaging Processing - ‘MIP’; Natural Language Understanding - ‘NLU’; Nursing Informatics in Europe - ‘NURSIE’; Primary Care Informatics - ‘PCI’; Personal Portable Devices - ‘PPD’; Safety, Security and Ethics - ‘SSE’; and Traceability - ‘TRA’ (7).

2.2. Membership

Currently, 31 countries have joined the European Federation of Medical Informatics (Table 7).

| Country          | Country          | Country          | Country          | Country          | Country          |
|------------------|------------------|------------------|------------------|------------------|------------------|
| Austria          | Belgium          | Croatia          | Cyprus           | Czech Republic   | Denmark          |
| Hungary          | Iceland          | Germany          | Greece           | Estonia          | Finland          |
| Iceland          | Norway           | Italy            | Israel           | France           | Ireland          |
| Slovenia         | Poland           | Romania          | Portugal         | Spain            | Russia           |
| Germany          | Ireland          | Switzerland      | Turkey           | Turkey           | United Kingdom   |

Table 7. The list of EFMI members countries in 2013

Application are open to representative societies in countries within the European Region of WHO.

2.3. Representatives

EFMI operates with a minimum of bureaucratic overhead with each national society supporting the Federation by sending a representative to participate in the Council (8, 9, 10). National societies as members of EFMI in the EFMI Council are represented by one national representative with voting rights.

2.4. Activities

To achieve its goals, EFMI organizes European Congresses the MIE-s (Medical Informatics Europe). So far 24 general congresses have been organized by EFMI (8). These have taken place in several university centers: Cambridge (1978), Berlin (1979), Oslo (1988), Glasgow (1990), Vienna (1991), Jerusalem (1993), Lisbon (1994), Copenhagen (1996), Thessaloniki (1997), Ljubljana (1999), Hannover (2000), Budapest (2002), St Malo (2003), Geneva (2005), Maastricht (2006), Gothenburg (2008), Sarajevo (2009), Oslo (2011), Pisa (2012). In 2014 MIE will be organized in Istanbul.

EFMI is running another series of meetings: the Special Topic Conferences (STC). Its concept has the following components: Organization by a member society in combination with its annual meeting, EFMI council meeting is integral part, Topic defined to the needs of the member society, Relevant EFMI Working groups are engaged for the content, Contributions mostly on invitation, Small 2-day conference with 100+ participants (8).

The STC conferences took place in: Bucharest (2001), Nicosia (2002), Rome (2003), Munich (2004), Athens (2005), Timisoara (2006), Brijuni (2007), London (2008), Antalya (2009), Reikjavik (2010), Lasko (2011), Moscow (2012), Prague (2013). In 2014 STC will be organized in Budapest.

The most important meeting, however is the regular Council Meeting (twice a year) where council members can exchange opinions and have opportunity to discuss problems of medical informatics (8, 9).

EFMI has two highly respected official general journals, the International Journal of Medical Informatics (former title: International Journal of Bio-Medical Computing), and Methods of Information in Medicine. The most important EFMI publication, indexed in Medline, is Studies in Health Technology and Informatics, which publishes papers presented at MIE Conferences (8). EFMI also publishes several sub-specialty official journals covering the spectrum of medical informatics sub-disciplines.

2.5. In Closing

Through its work, EFMI provides leadership and expertise to the multidisciplinary, health focused community and to policy makers, enables the transformation of healthcare in accord with the world-wide vision of improving the health of the world population. EFMI is constantly striving to further the services it provides to its members and the informatics community in general by promoting free interaction among and between its member network and the bio-medical and health informatics community at large.

CONFLICT OF INTEREST: NONE DECLARED.

REFERENCES

1. IMIA: The International Medical Informatics Association. Available at: http://www.imia-medinfo.org. Accessed: on January 13, 2014.
2. IFIP: The International Federatin for Information Processing. Available at: http://www.ifip.org.at/ Accessed: on January 13, 2014.
3. Lindberg AB, Ball MJ. Morris F. Collen at 100: A Tribute to “The Father of Medical Informatics”. Methods Inf Med. 2013; 52: 371-373.
4. Degoulet P, Haux R, Kulikowski C, Lun KC, François Grémy and the birth of IMIA. 1st IMIA/UMIT Medical Informatics Award of Excellence given to Professor Grémy. Methods Inf Med. 2005; 44(3): 349-351.
5. Haux R. Medical informatics: past, present, future. Int J Med Inform. 2010; 79(9): 399-610. doi: 10.1016/j.ijmedinf.2010.06.003.
6. Kulikowski AC. The 50th Anniversary of Medical Informatics Project. Acta Inform Med. 2014 Feb; 22(1): 68-70. doi: 10.5455/aim.2014.22.68-70.
7. Ball MJ, van Bemmel JH, Kaitha S. IMIA Presidential Retrospectives on Medical Informatics. IMIA Yearbook of Medical Informatics 2007; [cited January 19, 2014].
8. EFMI: European Federation for Medical Informatics. Available at: http://www.efmi.org. Accessed: on January 12, 2014.
9. Masik I, Kern J, Zvavora J, de Luisgnan S, Vidmar G. Task Force of the European Federation of Medical Informatics Journals: Background, Rationale and Purpose. Acta Inform Med. 2009; 17(4): 180-182. doi: 10.5455/aim.2009.17.180-182.
10. Naszldy A. Contribution of EFMI to development of medical informatics. European Federation for Medical Informatics. Med Arh. 1999; 53(3 Suppl 3): 11-12.
11. Masik I. Five Periods in Development of Medical Informatics. Acta Inform Med. 2014 Feb; 22(1): 44-48. doi: 10.5455/aim.2014.22.44-48.