UMIN

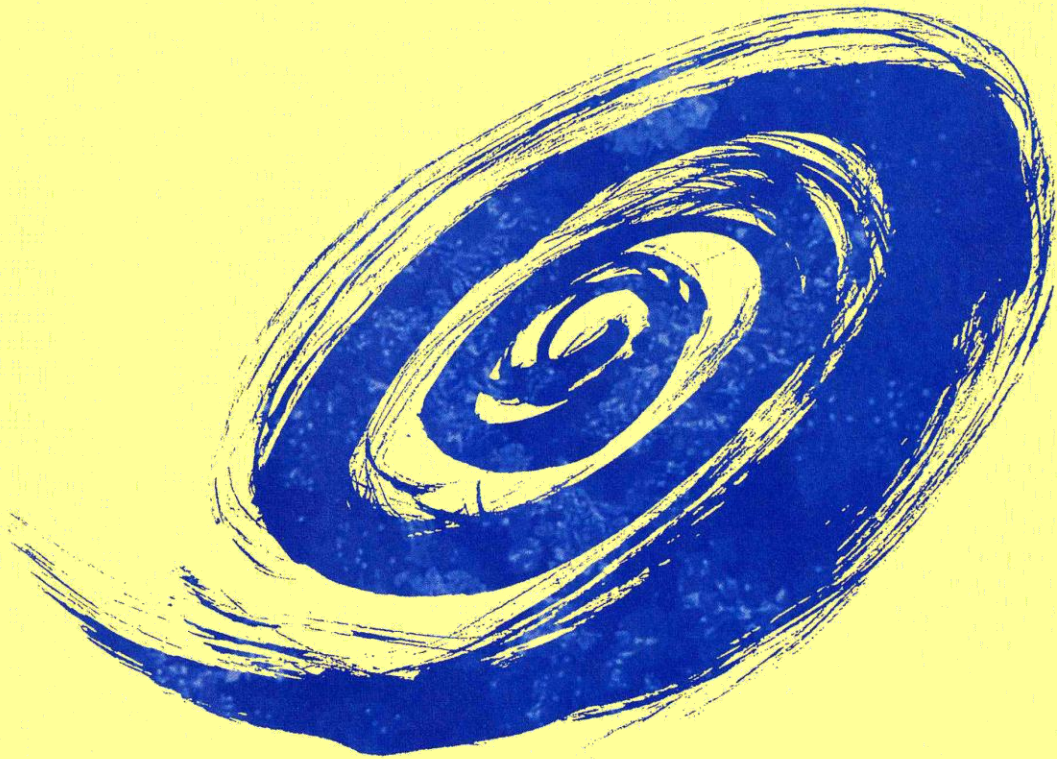**Infrastructure for Academic Activities**

University hospital Medical Information Network

UMIN

*UMIN is now **important information infrastructure** for academic activities of biomedical sciences in Japan, and it is **the largest and most versatile academic medical information network** in the world.*

SINCE 1989

Foreword

2004 was the most momentous year for UMIN since its establishment in 1989. The former Steering Committees of UMIN and MINCS were reorganized into the University hospital Medical Information Network (UMIN) Council under the National University Hospital Association. And a long-sought professorship for the UMIN Center was set up, to which Dr. Kiuchi, who had been devoted to the development of UMIN for more than eight years, was appointed.

The purposes of UMIN at the time of its establishment are now fully realized due to its recent establishment of education-related services, such as online evaluation systems for medical education and post-graduate clinical training. I deeply thank everybody who has contributed to UMIN activities, especially the former chairpersons, Drs. Kaihara and Sakurai, and successive staff members of the Medical Education Division of the Ministry of Education, Culture, Sports, Science, and Technology. I would like you all to continue to understand and support the UMIN activities in the future. I believe that all UMIN services for medical professionals and students will finally be returned to the general public in the form of good medical practice.

It will be a real pleasure for me if this brochure serves to promote understanding of UMIN and use of its services.

Sincerely,

Chairperson, the University hospital Medical Information Network Council
the National University Hospital Association

Tetsuya Igarashi, M.D., Ph. D. (Tsukuba Univ.)

What does "Infrastructure for Academic Activities" mean?

Who can use the infrastructure?

Any academic-related individuals and organizations!

(1) **Individual researchers**

(2) **Research laboratories**

(3) **Research groups**

(4) **Academic societies**
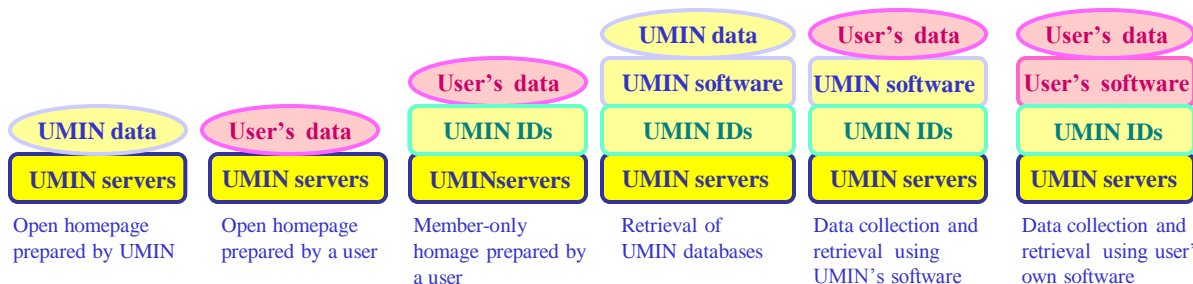
(5) **Universities and research institutes**

What purpose is the infrastructure used for?

Any academic-related purposes!

(1) **Research:** Data management of clinical trials, abstract entry for academic meetings, research fund information, etc.
(2) **Education:** Electronic textbooks, VOD image database, online evaluation of medical education and practice, etc.
(3) **Clinical practice:** Drug information, intoxication database, online manuals, etc.
(4) **Others:** Preparation of homepages, communications using mailing lists, email addresses for groups, etc.

Which resources of the infrastructure can be used?

Any combinations of UMIN servers, software, IDs, and data!

			UMIN data	User's data	User's data
		User's data	UMIN software	UMIN software	User's software
UMIN data	User's data	UMIN IDs	UMIN IDs	UMIN IDs	UMIN IDs
UMIN servers	UMIN servers	UMINservers	UMIN servers	UMIN servers	UMIN servers
Open homepage prepared by UMIN	Open homepage prepared by a user	Member-only homage prepared by a user	Retrieval of UMIN databases	Data collection and retrieval using UMIN's software	Data collection and retrieval using user's own software

1. Purposes

1. To provide up-to-date information to healthcare professionals
2. To support collaborative projects among university hospitals
3. To promote communications between healthcare professionals
4. To support collaborative clinical and epidemiological research
5. To standardize medical data and to collect hospital statistics
6. To support medical education and clinical training

2. History

1988 *UMIN and its Steering Committee was established in the Hospital Computer Center, the Univ. of Tokyo Hospital.*

1989 *UMIN started its N1-protocol-based services.*

1994 *UMIN started its Internet-based services.*

1997 *UMIN established its Electronic Library for Biomedical Sciences (ELBIS).*

1998 *UMIN stopped its N1-protocol-based services.*

1999 *UMIN started its VPN network (UMIN VPN) for national university hospitals.*

2000 *UMIN established its Internet Data and Information Center (INDICE) for medical research.*

2002 *UMIN Center was established as an independent department in the Univ. of Tokyo Hospital.*

2004 *The Steering Committee was reorganized into the UMIN Council under the National University Hospital Association. The first professor of the UMIN Center was installed.*

3. Organization (October 1st, 2004)

National University Hospital Association

UMIN Council

Chairperson: Tetsuya Igarashi (Tsukuba Univ.)
Members:
Representatives from university hospitals
Hokkaido University, Hirosaki University,
Gunma Univ. Tsukuba University,
Toyama Medical and Pharmaceutical University,
Nagoya University, Osaka University,
Okayama University, Kochi Med. School,
Nagasaki University, Oita Medical University

Representatives from specialists in healthcare
Dentists
Pharmacists
Nurses
Clinical laboratory technicians
Education and clinical training
Clinical and epidemiological research
Infection control

Representatives from others
UMIN Center
National Institute of Informatics
Information Technology Center, Univ. of Tokyo

UMIN Center
Director: Takahiro Kiuchi (Univ. of Tokyo)

Hospital Administration Subcommittee
Chairperson: Masaru Sato (Kyoto Univ.)

Drug Information Subcommittee
Chairperson: Kazuhiko Ichihara (Kochi Univ.)

Nursing Information Subcommittee
Chairperson: Mie Eiki (Univ. of Tokyo)

Laboratory Information Subcommittee
Chairperson: Masayuki Kambe (Hiroshima Univ.)

Network Technology Subcommittee
Chairperson: Takahiro Kiuchi (Univ. of Tokyo)

Clinical Research Information Subcommittee
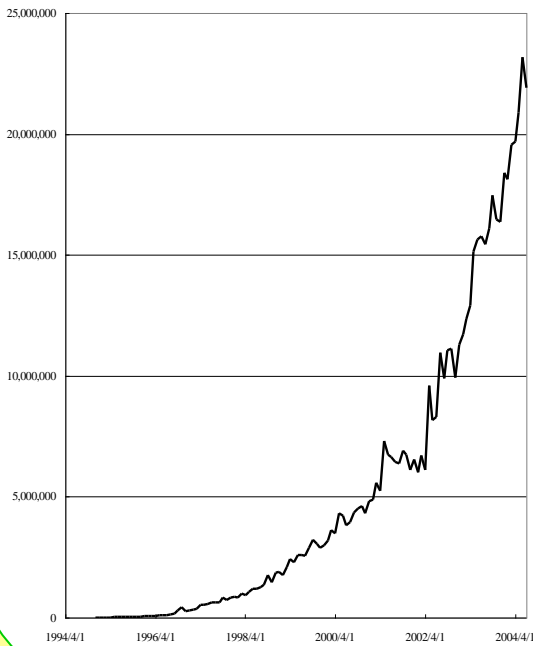Chairperson: Kazuhiko Ichihara (Kochi Univ.)

Satellite Media Subcommittee
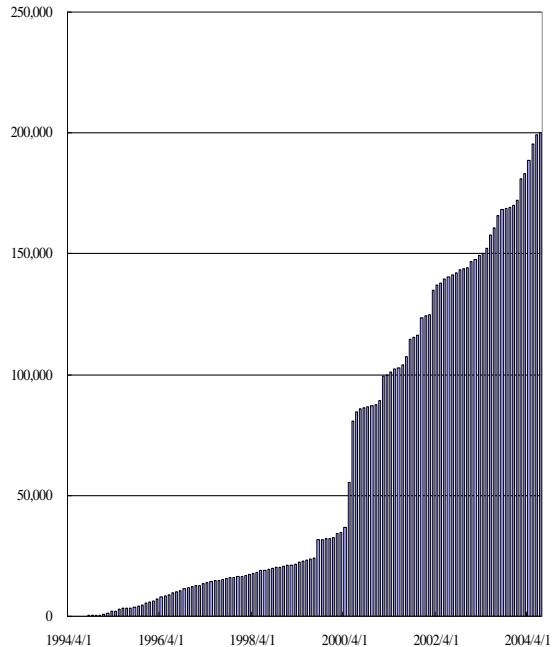Chairperson: Yoshio Ohta (Okayama Univ.)

4. Usages

(1) Monthly WWW page views
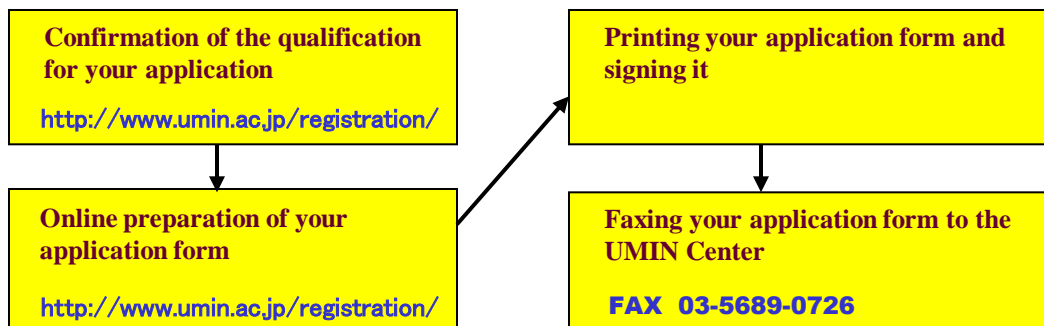### - More than two million page views per month

25,000,000

20,000,000

15,000,000

10,000,000

5,000,000

0

1994/4/1 1996/4/1 1998/4/1 2000/4/1 2002/4/1 2004/4/1

(2) The number of registered users
- 200 thousand registered users

250,000

200,000

150,000

100,000

50,000

0

1994/4/1 1996/4/1 1998/4/1 2000/4/1 2002/4/1 2004/4/1

5. Application for your UMIN ID

Caution We are sorry that UMIN IDs are currently not issued to non-Japanese citizens who live outside Japan, and that almost all UMIN resources for registered users are in Japanese, including the UMIN ID online application system.

Confirmation of the qualification for your application

http://www.umin.ac.jp/registration/

Online preparation of your application form

http://www.umin.ac.jp/registration/

Printing your application form and signing it

Faxing your application form to the UMIN Center

FAX 03-5689-0726

Qualification for application   http://www.umin.ac.jp/adduser/touroku.htm

1) Faculty, staff, and students of universities related to healthcare

2) Healthcare researchers

3) Healthcare librarians and clinical data managers in non-profit organizations

4) Trainee doctors, supervisor doctors, and support staff for clinical training in postgraduate education hospitals

6. Lists of major services

Research

AC -Academic societies and meetings database

ELBIS -Electronic Library for Biomedical Sciences

FIND -Fund Information Database

INDICE -Internet Data and Information Center

ROCOLS -Recruiting System for Our Colleagues and Students

Education

EPOC - Evaluation system of Post-graduate Clinical training

Web-QME - Web-based Quality Management system for Educational effectiveness

SUPERCOURSE - Online lectures compiled by the University of Pittsburgh

VHP - Visible Human Project image data prepared by NLM, U.S.A.

Multipurpose

Information and database services

Collection of biomedical web sites

MINCS-UH broadcasting programs database

Medical terms glossary

Research institutes and hospitals database

Homepage hosting services

Open homepage hosting service

Member-only homepage hosting service

Archival homepage hosting service

VOD hosting service

Communication support

Email service

Mailing list service

News service

BBS service

Clinical practice

Intoxication database

HIV manual

Drug information database

Drug information text database for pharmacists

Drug information text database for patients

Medical supplies and materials database

Standardized nursing procedures database

University hospitals

Official documents database

University hospitals guide

University hospital statistics

Master database for patient fee calculation

Standardized disease nomenclature database

Mailing lists

Member-only homepages

7. Literature

[1] Kiuchi T, Sakurai T, Ohe K, Ohashi Y, Kaihara S. University Medical Information Network - Past, Present and Future. MEDINFO 98. IOS press. 420-24, 1998

[2] Kiuchi T, Takahashi T. High Speed Digital Circuits for Medical Communication; the MINCS-UH Project. Methods of Information in Medicine 39:353-5, 2000

[3] Kiuchi T, Ohe K, Sakurai T. UMIN - Key information infrastructure for the Japanese Medical Community. MEDINFO 2001 IOS press 1359-63, 2001

[4] Kiuchi T. UMIN INDICE and virtual coordinating centers for clinical research. Proceedings of the International Conference on Advances in Infrastructure for Electronic Business, Science, Education, and Mobile Technologies on the Internet (Summer), Telecom Italia Learning Services, 2003

[5] Kiuchi T, Igarashi T. UMIN - Current status and future perspectives. MEDINFO 2004, IOS press, 2004 (in press)

8. Major services

Support for clinical and epidemiological study at the initiative of researchers

INDICE — UMIN Internet Data and Information Center for medical research
http://www.umin.ac.jp/**indice/**

INDIC is an application service provider for Internet-based clinical and epidemiological research. Its merits are as follows:

1) Low cost

Low cost hardware and original package software provided by UMIN

2) Much experience

More than 50,000 patients registered for 48 research projects

3) Reliability

Reliable services supported by IT specialists

4) Safety

Security protection mechanisms such as firewalls, encryption, and intrusion detection system, etc.

5）Laborsaving

All of the system management, including that of hardware, software, user, and security, performed by UMIN, and more than 200 thousand UMIN IDs available for patient data entry

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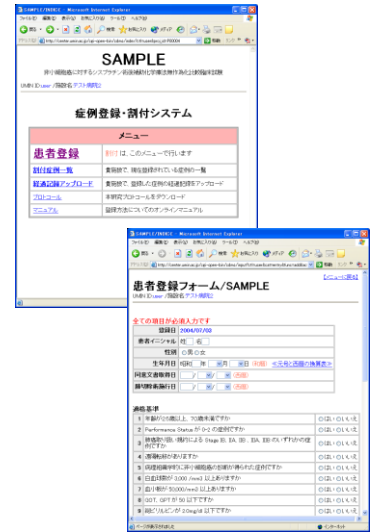
Quality education and clinical training based on proper online evaluation

EPOC — Evaluation system of Post-graduate Clinical training
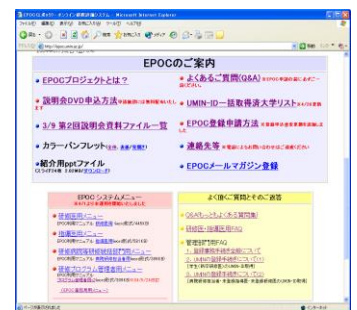http://www.umin.ac.jp/**epoc/**

1. Characteristics

1) Web-based evaluation

2) Mutual evaluations

3) Laborsaving

4) Speeding-up

2. EPOC Users

More than one-thirds of Japanese residents use EPOC

Kind of users	Number
Residents	4,900
Supervisory doctors	21,554
Clinical training programs	363

Web-QME — Web-based Quality Management system of Educational effectiveness
http://www.umin.ac.jp/**web-qme/**

1. Characteristics

1) Web-based evaluation

2) Secret evaluation

3) Laborsaving

4) Speeding-up

2. Procedures

Lecture and its students entry

↓

Online evaluation by students

↓

Tabulation of results
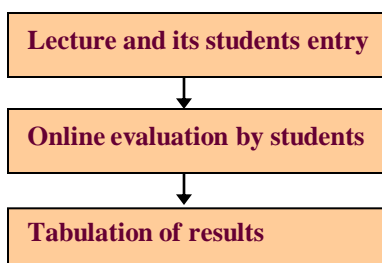
Online collection and delivery of academic information

ELBIS
UMIN Electronic Library for Biomedical Sciences
http://www.umin.ac.jp/**elbis**/

1) **Digitalization of papers and abstracts**
2) **Automated generation of bibliographic database**
3) **Laborsaving**
4) **Speeding-up**
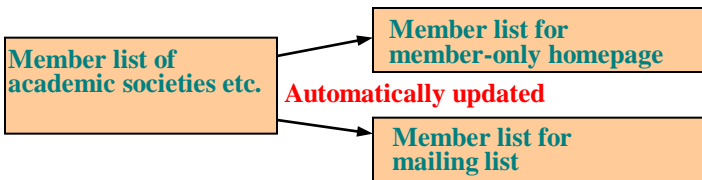5) **Low cost with flexible, multifunctional software package**

| Online collection | → | Paper-based publication |

Online review → Online publication
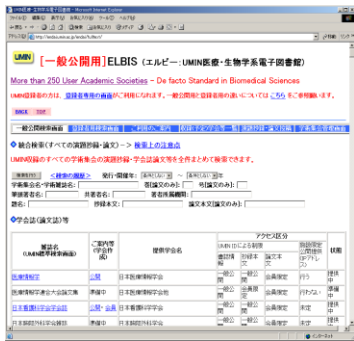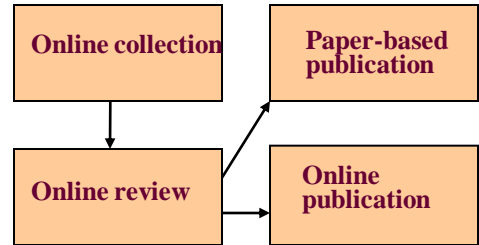
The number of user academic meetings

OASIS
Member-only homepage hosting service
http://www.umin.ac.jp/**oasis**/

Major user academic societies

Japan Association of Medical Informatics

Japan Academy of Nursing Science

Japanese Association for Thoracic Surgery

Japanese Circulation Society

Japanese Society of Gastroenterology

Japanese Neuroscience Society

Japanese Society for Cardiovascular Surgery

Japanese Society of Nephrology

Japanese Neurosurgical Society

Japanese Urological Association

Japanese Society of Allergology

Japan Endocrine Society

Japanese Society of Pathology

(1) Automated update of member lists for HP and ML

Member list of academic societies etc. → Member list for member-only homepage

Automatically updated

→ Member list for mailing list

(2) Application software provided by UMIN

1) *Member list retrieval system*
2) *Bulletin board system*
3) *Mailing list web archive*
4) *UMIN Electronic Library for Biomedical Sciences*
5) *Internet Data and Information Center for medical research*

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http://www.umin.ac.jp/