

E-mail :

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Date Updated : 1999/2/23

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Case Number : 48

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Main Facility : Yoshida General Hospital  
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Related Facilities : "Department of Radiology, Hiroshima University  
School of Medicine"  
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Number of Facilities : 1  
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Practicality : Experimental  
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Date of Start : 1996/4  
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Date of End :  
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Status : in progress  
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Outline : Hiroshima University was connected with our hospital that  
lied 50km north through ISDN to transmit CT images. Because our  
hospital has no full-time radiologist, CT images were transmitted  
to once a week to obtain the diagnoses by specialists. Because  
tele-radiology was introduced, images of 3 cases are transmitted  
every day to 4 specialists. In addition, our hospital was connected  
with Takamiya Municipal Tachikawane Clinic through ISDN. The  
radiographic images of the patients referred from the clinic are  
transmitted to Hiroshima University as required.  
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Technology - Materials : A medical image network system jointly  
developed by Inohara Industries and NTT is used. Image  
transmitting device: Vm-64 (NTSC system) of NTT, High definition  
color monitor: PVM-20440 of Sony, Storage device: MO disk drive  
(MK-128D of Mitsubishi Kasei), Photographing equipment: and  
facsimile (for receiving and sending order form and diagnostic  
report)  
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Technology - Communication Lines : ISDN  
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Characteristics : Hiroshima University, this hospital located in the  
suburbs, and clinic located at the prefecture border were linked to  
make a medical image network. This gave those who lived remote  
places the opportunity to have diagnosis of specialists in early  
stage.  
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Evaluation : In the past, medical images, such as CT images, were  
transferred to photographic films, which were sent to the  
university. However, the network with ISDN transmits clear images  
in a short period, and saves time and manpower. Because physicians  
receive diagnostic results and advice by specialists soon, they  
could start more accurate treatment. The future targets are to  
develop network with other medical institutions and eliminate  
films.  
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Keywords : Remote medicine, tele-radiology, ISDN  
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References :  
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**Date Updated : 1999/2/23**

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Case Number : 49

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Main Facility : Yoshida General Hospital  
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Related Facilities : Midorichou Yokota Hospital  
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Number of Facilities : 1  
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Practicality : Experimental  
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Date of Start : 1996/2  
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Date of End :  
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Status : in progress  
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Outline : With the grant from Hiroshima pref., a committee was established to develop medical devices useful for caring patients at home. In February 1996, the trial use of a device was made for about 2 months in the affiliated elderly health institution under the approval of the Drugs, Cosmetics, and Medical Instruments Act. Because the device was favorable in the trial, it was decided to provide it for 2 bedridden old people in neighbor towns and 1 patient under at-home oxygen therapy. Now, it is being used by the 3 people.  
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Technology - Materials : At-home patient monitoring device (Fukuda Electronics), NTT PICSEND-C, CANON communication camera, and facsimile  
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Technology - Communication Lines : ISDN  
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Characteristics : (1) Voices and images can be bi-directionally transmitted; (2) blood pressure, electrocardiogram, body pressure, respiratory rate, oxygen saturation can be measured by remote control; (3) the records of both home and center terminals are digitally filed, and can be retrieved at the same time; (4) compared to CATV, the range of remote diagnosis has become wider because ISDN circuit is used.  
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Evaluation : The center accesses the subjects at fixed time every morning to make remote examination. In addition, 24-hour on-call system is prepared. Records and data are sent to at-home care supporting staff members (municipal clinics, visiting care and bath service, and helpers) with facsimiles to exchange information. In November 1996, the device was installed at the house of a patient with prolonged consciousness disorder. Because the patient was monitored all day long, the families could leave him and got relaxed. It is planed to use the device as an assistant medical device in terminal and relieving cares.  
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Keywords : Remote diagnosis, ISDN, at-home medicine, care device  
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References :  
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Date Updated : 1999/2/23  
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Case Number : 50

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Main Facility : "Greater Kakogawa Area Community Health and Medical Care Information Center, Kakogawa General Health Center"

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Related Facilities : "Kakogawa National Hospital; Kakogawa Municipal Hospital; Sinkou Kakogawa Hospital; Kawanishi Clinic (Internal Medicine); Adachi Clinic; Fujimoto Clinic (Surgery); Yamamoto Clinic (Surgery & Orthopedic Surgery); Watanabe Clinic (Ophthalmology); Edagawa Clinic (Internal Medicine & Gastroenterology); Tamagawa Clinic, Harima Clinic; Takashima Clinic (Internal Medicine); Nakata Clinic; Nakaoka Clinic; Gotou Clinic; Fujie Clinic; Morita Clinic; Nishioka Clinic (Dermatology)"

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Number of Facilities : 18

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Practicality : Practical

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Date of Start : 1991/4

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Date of End :

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Status : in progress

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Outline : Image Information System (Regional PACS) was designed to improve primary care, detect and treat diseases in early stage, and promote the cooperation between hospitals and clinics and between clinics in Kakogawa. It stores various medical images obtained at the medical institutions in the region and at the screening by the Kakogawa General Health Center as a data base. The medical institutions included in the system can access to the data base as required. To spread this system in the region, common interfaces have been developed for the 4 basic functions of "Input," "Storage," "Reference," and "transmission." The "input" function inputs the images of various image examination devices. The "Storage" function stores the images converted to data with the above input function in a storage medium and records the controlled information in a data base. The "Reference" function searches for an image according to the information recorded in the data base, and refers to and edits an image as required. The "Transmission" function permits a medical institution to refer to an image stored in another institution in the region and store images that meet specific requirements. Therefore, this system was designed to share, and make the best use of, the images that should be shared in the region as performed for numerical data such as examination and screening results.

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Technology - Materials : (1) Linked medical institutions Terminal (Pentium 75MHz or higher, RAM 23.6MB or higher, and HD 420MB or higher, equipped with a full-color window accelerator board) Image storage device: 3.5" photomagnetic disk drive (NEC OD-302) Image input device: image scanner (EPSON GT-9000WIN) Stationary image reproducer: (Fuji, DF-10M/20M/30M); (2) Base medical institutions Kakogawa Local Health Medical Information Center: Host computer (NEC SYSTEM 7200/100, HD9.4GB, and RAM 48MB). Kakogawa General Health Center: Terminal: the same as those in the linked institutions Image storage device: photomagnetic library equipment (NEC OL5120, maximum 26GB) Image input device: film digitizer (Abe Design)

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Technology - Communication Lines : INS 64 circuit

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Characteristics : (1) Effective control of image information: This system uses a decentralized control method because personal computers and peripherals with higher processing speed and larger storage capacity can be obtained at low cost, and because illegal access can be prevented when images are stored and controlled by each institution. However, since decentralizing all information obstructs its mutual use, only image data and related information (comments for images etc.) are controlled in a decentralized manner, and the information of the history and location of images is controlled by the host in a centralized manner. This allows the medical institutions in the region to share the information about the history and location of all the images taken by them, and use the information as the basis for searching for images in other institutions. (2) Image transmission function: Images controlled by other institutions can be referred to or transmitted as required according to the history and location information controlled by the host. Transmitted images can be stored at the destination institution only when specific requirements are satisfied. To prevent the illegal use of the image transmission function, transmission history records including "which image was transmitted and how it was used" are controlled with a transmission log. (3) Shared use of images in the region: The "Transmission" function of the regional PACS allows the medical institutions in the region to transmit and receive images in the region. Therefore, examination and screening images taken by other institutions can be referred to. For example, when a patient is referred to another institution, the images of the patient are transmitted with a letter of introduction. This is useful for informing the referred institution of the patient's symptoms more closely. The function also contributes to the joint use of limited expensive medical devices by transmitting images requested by clinics without such devices. Moreover, doubtful images can be transmitted to the physicians in other institutions to obtain advice. Therefore, the function permits the institutions in the region to share all images.

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Evaluation : To establish a medical image information system as a part of the Kakogawa Region New Media Community Plan, an experimental system had been run to examine its basic functions since 1991. The filing, search, and quality of images were evaluated mainly using chest X-ray and heart disease images. An experiment to transmit images through an ISDN circuit was also performed. Regional PACS, a system that finished the experimental phase and can be put into practical use in the comparative analysis of images, has been operated since 1994. The Regional PACS was introduced to 19 medical institutions, and each institution has stored about 50,000 images including those of endoscopy, echography, and X-ray examination in various departments. In the clinical setting, these images are used to explain symptoms to patients more closely, or to compare current and past images for detecting and treating diseases in early stage. The quality of stored images is acceptable for comparative analysis because optimal image compression ratio is selected by the responsible person in the Kakogawa Regional Health and Medicine Information Center and the physicians in the medical institutions using the system.

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Keywords : Local PACS

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References :

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Date Updated : 1999/3/5

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Main Facility : Kochi Municipal Central Hospital

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Related Facilities : Kochi Municipal Sukumo Hospital; Reihoku Hospital; Yusuvara Hospital; Otsuki Hospital; Tosayamamura Rural Clinic; Umaji Rural Clinic; Agawamura Osaki Clinic; Okinosima Rural Clinic

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Number of Facilities : 8

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Practicality : Practical

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Date of Start : 1995/12

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Date of End :

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Status : in progress

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Outline : A center for remote place medicine was established in our hospital last April in order to support and give information to physicians in remote places and to connect local residents with specialists. The center maintains an image communication network as one of its functions. Medical image transmitting system was experimentally introduced to 3 medical institutions in the western part of Kochi pref. in 1993 to make a network of medical institutions in remote places. Based on the results, remote medical image diagnosis network system was started in December 1995, which linked 8 institutions in Kochi pref. including clinics, small hospitals, base hospitals, and this center.

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Technology - Materials : (1) TV conference: FM-A71 (NTT), (2) Stationary image transmission: VM-64 (NTT), (3) Image input device: CCD camera for business use, film scanner, and digital camera

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Technology - Communication Lines : ISDN (NET64)

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Characteristics : This system was mainly designed to support young physicians who worked alone. Therefore, it consisted of TV conference and stationary image transmitting systems, and can receive various clinical images taken in the clinics with a CCD or digital camera. The system is based on the center for remote place medicine, and medical information in remote clinics are sent to specialists through experienced general physicians in the center.

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Evaluation : In the 6 months from the start of operation, 86 pieces of information were transferred with a total of 426 images. The images ranged from skin findings to CT images, depending on the scale, equipment, number of physicians, and experience of institutions. Examining the relation between institutions and the type of images showed that there were many inquiries about general image diagnostic techniques, such as X-ray photography, abdominal echography, or electrocardiography, from clinics that had no bed and were managed by only one physician who had experience of 4-5 years. Small-to-medium hospitals managed by several physicians tended to use the system to request a diagnosis of difficult CT images and advice about therapeutic policy, and present cases requiring close examination. There were many requests for diagnosis of skin findings regardless of the scale of institutions. Specialists in various departments reported that the system provided sufficient quality of images as reference images for supporting diagnosis.

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Keywords : Remote place medicine, clinic, diagnostic support, TV  
conference, high definition stationary image transmission, ISDN,  
NET64

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Date Updated : 1999/3/15  
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Case Number : 52

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Main Facility : "Department of Pathology Hokkaido University School  
General Hospital"  
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Related Facilities : Oji General Hospital  
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Number of Facilities : 1  
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Practicality : Experimental  
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Date of Start : 1994/10  
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Date of End : 1994/12  
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Status : finished  
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Outline : The utility of the system was experimentally examined as a  
part of the consultation system between our department and a local  
base hospital to which our pathologists were dispatched regularly.  
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Technology - Materials : Nikon-Terumix, N64A system; stationary  
images; conversation over the microphone is available.  
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Technology - Communication Lines : ISDN circuit  
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Characteristics : This system is not bi-directional: the Tomakomai  
hospital consults our department in Sapporo, A microscope equipped  
with a camera was installed only in the Tomakomai Ohji Hospital.  
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Evaluation : This system was designed for remote consultation among  
pathologists. Therefore, it was not intended to give the  
technicians and surgeons of the Tomakomai Ohji Hospital the  
opportunity to directly consult the pathologists in our  
department. The experiment showed that this system could not be  
put into practical use because image transmitting speed of the  
test equipment was too slow, and because pathologists had to follow  
the procedure different from that they usually followed, and the  
difference caused much frustration. Another reason to drop this  
system was great economic burden. There was also a problem of  
whether this system was applicable to health insurance.  
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Keywords :  
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References :  
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Date Updated : 1999/3/15  
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Case Number : 53

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Main Facility : "Second Department of Internal Medicine, Iwate Medical University"  
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Related Facilities :

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Number of Facilities :

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Practicality : Experimental  
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Date of Start : 1993/10  
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Date of End : 1995/10  
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Status : finished  
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Outline : It is important for patients in the recovery stage after acute myocardial infarction to continue exercise therapy after discharged from hospitals as rehabilitation and as a measure of secondary prevention. For that purpose, a safe and effective exercise therapy system was developed that combined indoor exercise therapy using a hydraulic treadmill device (Stear Climber (TM)) with a home monitor (Home Doctor by Seta, Urara (TM)).

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Technology - Materials : Exercise was performed for 10 minutes every day with a stair-climber synchronized with the signal sound of an electronic metronome according to the number of steps on the liquid crystal display. Blood pressure, electrocardiogram (1 lead for 1 minute), and inquiry findings (palpitation, breathlessness, chest pain) were recorded to the home monitor terminal before and after the exercise. The data were stored in the terminal computer of the at-home monitor. The host and terminal computers were programmed to perform the following jobs automatically: the terminal computer accesses the host computer once a day at a fixed time through a circuit to transmit stored one-day data (blood pressure, electrocardiogram, and inquiry findings). The host computer receives and stores these data. The message input to the memory of the host computer (within 30 letters including hiragana, katakana, and alphabet) is transmitted to the terminal. The terminal computer receives and stores the direction of physicians, and shows it on the liquid crystal display when requested by its user.  
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Technology - Communication Lines : Telephone circuit  
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Characteristics : At-home exercise therapy using the biological information network that links homes and medical institutions.  
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Evaluation : Operation: Physicians analyzed the data of patients stored in the host computer once a week. When any abnormal change in body temperature or arrhythmia was noted immediately after the exercise, the therapy is temporarily stopped, and the patient is invited to the clinic. When the number of steps is considered not to reach AT as determined by the heart rate immediately after the exercise, the number is increased. Patients who perform the exercise for 3 days or more per week are considered to well comply with the exercise therapy, and others are considered to poorly comply with it.  
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Keywords : Evaluation: (1) This semi-monitoring home rehabilitation using computers and telephone circuit allowed us to effectively

grasp the performance of exercise therapy at home. (2) The semi-monitoring home rehabilitation is useful because it compensates for the defects of home non-monitoring rehabilitation, and because it can be more easily spread and continued and is safer than the monitoring type.

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References :

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Date Updated : 1999/2/24

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Case Number : 54

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Main Facility : Seitetsu Memorial Hospital  
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Related Facilities : "Memorial Heart Center; Second Department of  
Internal Medicine, Iwate Medical University"  
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Number of Facilities : 1  
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Practicality : Practical  
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Date of Start : 1990/10  
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Date of End :  
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Status : in progress  
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Outline : A network that linked several homes and the medical  
institution was established with cable TV or telephone circuit and  
computers. Using the network, medical service that collect and  
analyze biological information at home has been performed. A total  
of 430 residents take part in the network in Kamaishi, Iwate pref.  
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Technology - Materials : Biological information at home is  
transmitted to the medical institution between terminals (Home  
doctor by Seta, Urara(TM)) and a host computer (X68000TM by Sharp)  
through cable TV or NTT circuit. The host and terminal computers  
are programmed to perform the following jobs automatically: the  
terminal computer accesses the host computer once a day at a fixed  
time through a circuit to transmit one-day data (blood pressure,  
electrocardiogram, and inquiry findings). The host computer  
receives and stores these data. The message input to the memory of  
the host computer (within 30 letters including hiragana, katakana,  
and alphabet) is transmitted to the terminal. The terminal  
computer receives and stores the message, and shows it on the  
liquid crystal display when requested by its user.  
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Technology - Communication Lines : Cable TV, telephone circuit  
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Characteristics : Biological information network that links homes and  
medical institution  
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Evaluation : Operation: Nurses screened the data collected every day.  
If any abnormality was detected, they informed the responsible  
physician, and the physician confirmed it. Regardless of the  
presence of abnormality, a monthly report containing 1-month data  
and physician's opinion was sent to all the users. Evaluation: A  
questionnaire survey was performed by mail or telephone in all the  
participants. Most responders showed the increased interest in  
health, and none showed reduction. The network was useful in 94% of  
the participants for controlling their health conditions. To be  
more concrete, they got familiar with medical institutions and got  
relieved.  
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Keywords : Cable TV, biological information, electrocardiogram, blood  
pressure  
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References :  
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Date Updated : 1999/2/24

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Case Number : 55

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Main Facility : Aichi Medical University Hospital

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Related Facilities : "Institute of Physical Fitness, Sports Medicine and Rehabilitation, Aichi Medical University; Advanced Critical Care Center; Information Processing Center"

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Number of Facilities : 3

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Practicality : Practical

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Date of Start : 1994/4

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Date of End :

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Status : in progress

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Outline : This life-style improvement supporting system is a computer-controlled system that guides and supports nutrition and exercise through telephone circuit. It was developed for promoting life-style modification at home. In this system, IC card terminals in the patients' houses are connected with a host computer (PC) in the university through telephone circuit. Patients determine and input blood pressure, amount of exercise, types and quantity of foods to the IC card terminals every day. The data are transmitted to the host computer, and appropriate responses about the shortage or excess of the parameters are transmitted back to the patients. A clinical trial in 28 mild to moderate hypertension patients in 1995 showed compliance of more than 97% and significant reduction of blood pressure and body weight, and the results confirmed the utility of the system. Subsequently, the modified version of the system for diabetics was also developed, although the transmission of dynamic pictures has not been introduced. The diabetic version of the system has additional data items to be input at home, such as uric acid and blood sugar. The operability of the IC card terminal was also improved. A clinical study in outpatients with diabetes is now underway.

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Technology - Materials : (1) Patients' home (loan): IC card terminal (NTT Data Communication, Tamura Electronics Industry) - compatible with credit-card-sized type S IC cards (memory capacity: 8KB); liquid crystal display of 40 letters x 14 lines; input with a touch panel; and built-in heat-sensitive serial dot printer (2) Medical institutions: 2 each of online and batch-processing host computers (NEC PC-98 series connected to LAN), and a set of software for data analysis and response.

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Technology - Communication Lines : Telephone circuit (connected with modems of 2400 to 14400bps)

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Characteristics : This is a tele-medicine-oriented life-style improvement supporting system consisting of established hardware and software products. An user-friendly touch-panel IC card terminal was connected to the telephone circuit of the patients' houses to mainly collect text and numerical value information. At the same time, patients were given advice for improving their life-style. The system has been designed to be easily handled at low cost.

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Evaluation : A 3-month clinical trial was performed in 28 (18 males and 10 females) patients (age: 22-62 years) with mild to moderate



essential hypertension to evaluate the utility of this system. The result showed significantly reduced blood pressure and body weight. Compliance (the rate of the days when data were input) was more than 97%. The version for hypertensive patients has put into practical use and has been followed. A newly developed version for diabetics is now being evaluated in a clinical study.

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**Keywords :** Life-style diseases, telephone circuit, life-style modification, IC card terminal

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**References :** "(1)Toshiaki Shiomi et al: Development of a supportingsystem for life-style modifications using a home telephone: ""AILIFE"", Preceedings of the 15th conference in medical informatics in Japan, 357-358, 1995. (2)Shiomi T et al, Development of a Supporting System for Life-Style Modifications using a Home Telephone: ""ALIFE"", RESPIRATION AND CIRCURATION 42:1061-1066, 1994."

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**Date Updated :** 1999/2/24

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Case Number : 56

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Main Facility : Shiga University of Medical Science Hospital

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Related Facilities : Koka Public Hospital; Hino Memorial Hospital; Kusatsu General Hospital; Toyosato Hospital; Biwako Oohashi Hospital; Makino Hospital; Otsu Red Cross Hospital; Kondo Clinic ; Nagahama Red Cross Hospital; Hikone City Hospital; Gamo-town Hospital; Yasu Hospital; Miyawaki Hospital; Takashima General Hospital; Kato Internal Gastro -Intestine Clinic; Ishibe Medical Center; Kohoku General Hospital; Kaneihara Clinic; Yamaguchi Hospital

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Number of Facilities : 19

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Practicality : Practical

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Date of Start : 1994/5

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Date of End :

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Status : in progress

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Outline : As one of the local medical care projects of the department of general medical care, Shiga Medical College, a local network system mainly for the transmission and diagnosis of medical image information was established to promote the exchange of patient information among general practitioners, general hospitals, and specific function hospitals. The system was also designed to allow every level of the medical institutions to make professional decisions, and distribute patients to appropriate medical institutions. Computer communication technologies and equipment used in the Internet were introduced so that this system could be accessed regardless of the format of platforms in September 1997. At the same time, the home page that showed cases and hospital information were opened. E-mails were used to exchange information (including image information) in the network.

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Technology - Materials : Web, mail, and FTP servers were installed in the department of general medical care, Shiga Medical College. Those joining the network ??? The servers are connected to the Internet through LAN in the college. Sun SPARC station 5 (Sun Microsystems) is used as the main body of the server. It is connected to a communication server (Port Master, PM-2E-20 made by HUCOM) through Hub (Center COM MR815T made by Allied Telesis). Four ISDN circuits and 6 analog telephone circuits are connected to the communication server through a modem (HUCOM-EX336) and terminal adapter (TA64H). The servers are connected to the LAN in the Shiga Medical College. However, because ip forwarding is prohibited in the servers, the LAN cannot be directly accessed from this network. Applications used include apache 1.2 for constructing the Web server and Sendmail 8.8.5+2.7Wbeta5 for constructing the mail server.

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Technology - Communication Lines : 4 ISDN circuits and 6 analog telephone circuits

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Characteristics : Because this system was designed to include general practioners, it was attempted to construct a system at low cost for both initial investment and maintenance by using general-purpose personal computers, application software, image capturing devices, and public circuits. Such an inexpensive system like this can

exchange clinically acceptable information and make effective CRT diagnosis. Because this is a closed network, the security of patient data and privacy is ensured. In the past, Macintosh series personal computers made by Apple in the United States were connected to the network through ISDN circuit by NTT (INS64), and communication was made with Apple Remote Access. From September 1997, the network can be accessed regardless of the formats of platforms.

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**Evaluation :** The network has been mainly operated by the Shiga Pref. Medical Care Information Network Operation Committee consisting of members from hospitals that participated in this project from the start, Department of Welfare of Shiga prefecture, Shiga Pref. Hospital Association, and Shiga Pref. Doctors' Association. Shiga Medical Care Information Network Workshop (meeting of those responsible for practice), a sub-organization of the committee, discusses technical problems and operation plans. The secretary office of the network was established in the Shiga Medical College affiliated hospital. In 1995 and 1996, Shiga pref. gave a grant to compensate for the cost to purchase devices and the expenses for using telephone circuit as a medical image transmitting device improvement cost supporting project. Each institution has fixed day and time zone for image diagnosis, patient referral, and therapeutic consultation. E-mails have been frequently used to exchange medical information among institutions.

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**Keywords :** Medical image transmitting network

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**References :** "S. Nagata et. al: The local medical image network system by Macintosh in Shiga. Proceedings of the 14th conference in medical informatics in Japan, 481-482, 1994 "

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**Date Updated :** 1999/2/26

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Case Number : 57

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Main Facility : NUMATA NEUROSURGERY & HEART DISEASE HOSPITAL

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Related Facilities : National Numata Hospital

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Number of Facilities : 1

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Practicality : Experimental

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Date of Start : 1996/9

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Date of End :

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Status : in progress

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Outline : This system was designed to transmit images and discuss them in video conference when a patient was referred or when specialists' opinions were required. It has been evaluated in experiments. A simple intra-net was constructed, in which images are transmitted using FTP or e-mails. The system combined with video conference will be constructed and evaluated in experiments.

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Technology - Materials : Intra-net using TCP/IP as communication protocol and Macintosh as a server. The composition in the department of circulatory organs, Numata Neurosurgery Hospital is as follows: Server: Macintosh 610AV, WWW, FTP, SMTP, POP, DNS, and PPP (sonic PPP), modality to be connected: MRI (GYROSCAN ACS II 1.5T by Phillips). MRI image data are directly captured by the server (Macintosh) to convert its file format to that can be used in TIFF or JPEG-compatible personal computers. MedVision is used to convert UNIX data, and NIHImage is used for analyzing images.

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Technology - Communication Lines : ISDN64, PPP connection

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Characteristics : MRI image files can be directly captured into a personal computer. Because this system does not use films as media, it can accurately align slice images and reduce the deterioration of images as compared to those captured from a digitizer (although data become 8bit gradient). The converted image data can be used with various personal computer applications. Images can also be referred to on WWW browser with a personal computer with the application for the Internet. When images have to be accurately analyzed, image data themselves can be analyzed with various techniques. Because public telephone circuit and personal computers are used, this system can be used when a physician in charge is absent, or from outside the hospital. If not emergency, image and voice files can be attached to e-mails. The system can be constructed at low cost.

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Evaluation : Images have been experimentally transmitted with FTP. This system has not been evaluated because the experiment has just begun. Advantages: The system can be modified quickly at low cost without the help of the makers of its components. Software including free-ware and share-ware and commercially available devices can be used. Disadvantages: Poor security (This will be a problem if telephone number or pass-word will leak out.

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Keywords : Image transmission, remote medical care, intra-net, diagnostic support, Macintosh

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References :

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