

The Medical Doctor Qualification Certificate Project by the Japan Medical Association*1

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The development in information technology (IT) is rapidly advancing in Japan, and its impact is felt in the healthcare and welfare sectors as well. Efforts have been undertaken to enhance care practices by taking advantage of IT through sharing and analyzing healthcare information.

However, the hasty introduction of IT has raised concerns with respect to security and privacy protection. Further, cases of identity fraud, where unscrupulous individuals pretend to be physicians, have become a social problem, raising concern regarding a basic credential system for medical practitioners.

In response to these circumstances, the Japan Medical Association (JMA) has been continuously making efforts in developing a safe and secure environment for healthcare and welfare by striving to understand the “bright and dark sides” of IT, given its mandate as an organization that represents physicians in Japan.

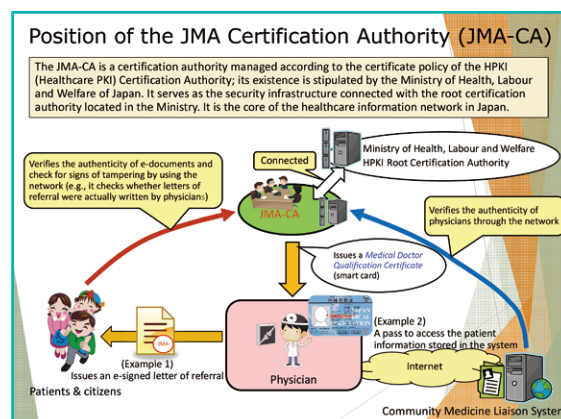
As part of our efforts, we offer the service of the JMA Certification Authority (JMA-CA). It is tasked with verifying the status of national medical license holders, which is the most basic foundation in this field. This service, which is interconnected with the Ministry of Health, Labour and Welfare’s system, enables electronic verification of the license status of physicians (Slide 1).

In addition, the JMA Electronic Certification Center (JMA-ECC) was launched in May 2013 as an affiliated internal organization to manage the JMA-CA. The JMA-ECC issues smart cards called Medical Doctor Qualification Certificate upon strict review of the license status and eligibility of physicians. The JMA-ECC also offers

support services for the preparation of a safe and secure IT infrastructure for healthcare information using the Medical Doctor Qualification Certificate cards (Slide 2).

There are two ways to use the smart card: one is in adding an electronic signature to a document; and the other is in authenticating one’s identity when logging in the network system (log-in authentication).

As the name suggests, an electronic signature, or e-signature, enables the cardholder to sign an electronic document electronically. Adding an e-signature to a document in the healthcare network system helps prove the authorship of the signed document as well as the active license status of the author as a physician. If the content of an e-signed document has been altered, the electronic properties of the document will allow others to detect the changes. This function is



Slide 1

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Task Overview of the JMA Electronic Certification Center

The JMA Electronic Certification Center (JMA-ECC) performs the following tasks.

- Issues an e-certificate (a smart card with an IC chip) that proves the physician's license
 - The key project of the JMA-ECC is to issue smart cards that serve as e-certificates and physicians' proof of identification as well as to help people using the cards.
 - Registration and auditing involved in issuing of e-certificates
 - Management and maintenance of registered personal information and safety management
 - Support services for installing auditing boards at hospitals and in communities
 - Provision of a portal site
 - Other necessary matters pertaining to the issuing of smart cards
- Prepares a healthcare IT infrastructure that ensures security by actively using the JMA-CA
 - This project helps communities build secure and safe network infrastructure using IT by promoting the use of the JMA-CA and providing a standard means of authentication.
 - Prepare an e-signature environment for healthcare documents that complies with the E-Document Act
 - Prepare a standard login infrastructure by promoting the introduction of the JMA Healthcare Certification Infrastructure (single sign-on; SSO).
 - Provide a system that manages JMA Continuing Education points
 - Other matters associated with the preparation of infrastructure necessary to ensure security (e.g., security management support)

Slide 2

Understanding the General Image...

- E-signature**

It is used in creating documents that require a doctor's signature/name-stamp (e.g., letter of referral, medical certificates, primary doctor's opinions, prescriptions) for paper-free procedures. The power of electronic signature is guaranteed by the Act on Electronic Signatures and Certification Business.
- Authentication**

A user's identity must be always verified when accessing the community healthcare network. The proof of identification as a doctor is especially essential when gaining access to medical records or healthcare liaison pathways.

Slide 3

Adding an E-signature to an Electronic Letter of Referral

Preparation

- Connect the smart card reader to a PC.
- Place (or raise) the Medical Doctor Qualification Certificate on top of the smart card reader and you are ready to proceed to the next step.

- Create a letter of referral using a PC.
- When the function to add an e-signature is activated, the pop-up will appear and you will be prompted to enter a password (4-digit number).
- As proof of authorship, an e-signature is added in the form: "XXX (name), MD." It also proves that the document has not been tampered with.

Slide 4

Log In Using the Authentication Function (Access Pass)

Preparation

- Connect the smart card reader to a PC.
- Place (or raise) the Medical Doctor Qualification Certificate on top of the smart card reader, and you are ready to proceed to the next step.

- Press the login button of the system.
- Plug in the smart card and enter its password.
- Upon verifying your physician's license, you can view healthcare information and input patient information.

Slide 5

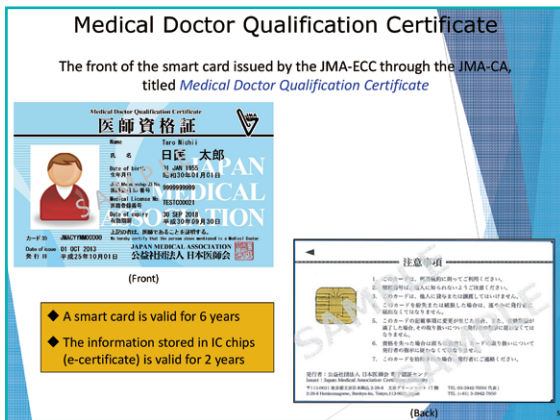
crucial in medical practice because such alterations—changes in prescription information when a physician is notifying patient information to others, for example—could result in the difference between life and death for patients. An e-signature can prevent such an incident.

Another function, identity authentication, is used when sharing patient information through IT to verify the eligibility and qualification of the person accessing the system. If a non-eligible person can access patient information, the duty of confidentiality among physicians may be compromised. This function is offered as a secure means to verify the credibility of physicians' license. The general image of the smart card is shown in **Slide 3**, and examples of its use are shown in **Slides 4 and 5**.

An example of an e-signature is shown in

Slide 4, which describes the steps involved when adding an e-signature to a letter of referral prepared using a PC. In Japan, the custom is to use a name stamp instead of a signature, and as such, the image here on the sample electronic letter of referral also uses the image of a stamp. The e-signature (e-stamp) serves as a guarantee that a physician wrote the letter, and that the document has not been tampered with after the e-signature was added.

In the example shown in **Slide 5**, the network system verifies the license status of the user (i.e., a physician) when he/she accesses healthcare information (patient information) through IT. As shown here, the Medical Doctor Qualification Certificate cards issued by the JMA-ECC are used as secure proof of identification as physicians within the IT realm.



Slide 6

The next slide (Slide 6) shows the front and back of a Medical Doctor Qualification Certificate card.

The front bears the name of the card, *Medical Doctor Qualification Certificate*, and lists the

cardholder’s information, such as the full name, date of birth, and physician registration number. Therefore, through this card, the cardholder can prove his/her license as a physician not only in the world of IT but also in daily life by physically presenting the card to others.

At present, the card is not accepted as an official proof of identification because it is regarded as simply a certificate issued by the JMA. However, we are negotiating with various other parties and working toward its acceptance as an official proof of identification for physicians.

Through these efforts, the JMA will continue to promote and propagate the Medical Doctor Qualification Certificate cards in both the IT world and daily practice by offering secure credentials for physicians. By providing this viable identification system, we hope to help build a safe and secure healthcare provision system in Japan that would protect patients and the Japanese people at large.