Occupational Health
Smart Cards

Secure • Streamlined • Reliable

The NHS Occupational Health Smart Card (OHSC) scheme is being implemented throughout all NHS hospital-based trusts in England, including many which are multi-site organisations. Smart cards are being issued to all doctors in training within these trusts.

The introduction of the smart card improves the quality and speed of pre-employment checks and will help to standardise the health checks prior to starting work. The system has been designed to meet the exacting quality and security standards of the NHS and supports the government’s NHS Plan objective of modernising working practices and using technology to improve business processes.

Over half the Trusts in England already have the system installed and the remainder will be operational by March 2004.

"Smart cards will improve local NHS clinical governance and risk management procedures"
Sir Liam Donaldson – Chief Medical Officer, Department of Health

"The smart card offers substantial improvements for our 'customers' and in the long term reduces our workload: a real win / win."
Dr Kit Harling – Medical Director, NHS Plus, and Consultant Occupational Physician, Avon Partnership
How does the scheme work?

Health check data is securely stored within the smart card making the information available to authorised Occupational Health (OH) staff, either to supplement or update previously submitted health questionnaires. Human Resources (HR) officers will have immediate confirmation of a doctor’s clearance for dealing safely with patients. This is designed to save administrative time and enable the doctor to start work without delay.

The doctors in training themselves will benefit from easy and secure access to their personal data. This can be updated in the presence of authorised OH or HR staff. The portability of the card will speed up the transfer of essential information whenever doctors move to a new NHS training placement. Postgraduate Deaneries across England are issuing smart cards to all Doctors in Training in their NHS area. The cards display the photograph and name of the doctor and will hold the GMC / GDC registration number within the chip.

The cards are sent to the current employing trust so that the relevant Human Resources and Occupational Health data can be added. Bulk data entry can be done before the cards are passed on to individual doctors for validation and the opportunity to personalise them with their own PIN. The doctors will then be responsible for ensuring that their data is kept up to date and that the card is produced whenever employment is changed within the NHS. From this point onwards data can only be amended when both the trust’s authorised operator has input their card and PIN and the doctor has also input their card and PIN. This prevents unauthorised alteration of the data and ensures that the data contained on the card remains secure.

The system operates entirely via the secure internal NHSNet. At regular intervals the data is automatically transferred to a central database. If a card is lost, damaged or stolen, a new card can be reissued using the stored data. A hotlist of lost or stolen cards is regularly transmitted to all trusts. When the doctor moves to a new trust, the smart card can be used by the new HR and OH units to retrieve relevant data and streamline the induction process.

A printed copy of the data can be made available to the doctor on request.

Who is covered by the Scheme?

Doctors in training (PRHOs, SHOs, SpRs including LATs) are a cohesive group and usually the most mobile NHS staff. So they will benefit most from the card’s portability – and provide the greatest identifiable cost savings for trusts.

The scheme has the design capacity to be extended to other staff groups if required. Existing card holders can continue to use their cards in the NHS once they have left training.

What about locums?

Medical locums also need to keep their personal data up to date. The system is now being implemented by NHS Professionals for locum doctors registered with them.

The OHSC Scheme

![Diagram showing the OHSC Scheme](image-url)
Advantages to HR in Trusts

The OH card scheme is working to simplify the carrying out of pre-employment checks and helping OH units to standardise the recording and interpretation of health checks from trust to trust. The latest phase of the scheme streamlines the processes carried out by authorised OH and HR staff as doctors in training rotate through the NHS. Authorised medical staffing officers at any trust can request pre-employment information about a specific doctor by completing a database search, usually by using the GMC number or the surname. Medical staffing officers or OH officers at the current employing trust can use the search function to produce full records for a card-holding doctor according to their respective access rights, but on a “read-only” basis.

"I hope your trust benefits from this innovative scheme and reaps the rewards of streamlined and standardised data entry"
Andrew Foster, Director of Human Resources, Department of Health.

"We are pleased to be included amongst the current "live" trusts in Yorkshire and have found the training helpful and the OHSC system easy to use for data entry. Our team can see the potential gain for doctors as they move around the NHS."
Georgina Cass, Medical Personnel, Scarborough and NE Yorkshire Healthcare NHS Trust.

"My trust has been working with smart cards since they were first introduced. My medical personnel team and staff in the Occupational Health Unit are finding the system helpful in streamlining the process of induction. Being able to share key data with other trusts, especially across London, will help with each new intake, and save staff time."
Ann Macintyre, HR Director, Barts and the London NHS Trust.

Link to GMC database

It is planned that the next phase of development will enable Trusts to interrogate the Smart Card database in order to confirm GMC registration data. A secure link will be set up between the Smart Card system and the GMC registration database which allows batch enquiries to be made by a Trust thus eliminating some of the requirement for telephone enquiries. This facility should be available from Autumn 2003.
Technical Background for IT staff

The application and smart card reader will run under W95/98 and NT/2000 platforms. The installation process requires full administrator rights to the local machine, to ensure "All User" privileges. The Gemplus smart card reader utilises a COM port (9-pin serial) and attains its power by piggy backing to the PS/2 keyboard connector. Suitable cabling is supplied with the reader. The cards contain 64K microprocessor EMV chips.

Software install

The installation process installs the appropriate driver for the smart card reader. It creates a folder in the "Program Files" folder called OHSC and loads the required files into this folder.

Configuration

A TSSI engineer is responsible for adding the licence key to access the software. The engineer uses a smart card to configure the software to identify the client to the server and will input the IP address of the server and port number to be used in the communications process. Also at this time a polling interval will be set, usually 60 minutes, with a 15 day "no connection" warning to the operator.

What is the function of the NHSClient.exe

The NHSClient.exe is a background task, permanently loaded at start-up. Its purpose is to poll the OHSC server at designated intervals and when communication is made, to send any transaction data held on the local PC. Likewise this connection, initiated by the client can be used for the server to distribute updates and hot-list. In order for the NHSClient.exe to make connection it is necessary to have firewall access from the designated PC’s to the central OHSC server which is on the NHSnet.

Security

Access to the OHSC application can only be achieved using a valid OHSC smart card. The access level is predetermined at the time of card issue. When a transaction is carried out i.e. a doctor’s card is updated, the update is written to the card and a corresponding data file written to the hard drive (within the OHSC folder, sub-folder called Transactions). The data stored on the hard drive in binary format and would require proprietary tools to interpret. Data is encrypted using 3DES. This file is sent to the Deanery when the client next makes contact. If the server is not available or communication is lost in mid-transfer, the client will simply try again next time. Each connection is authenticated at both ends and the data encrypted during transfer between the client and server. The data is transferred in 8kb packets.

Equipment at Trusts

Compact smart card readers and the software are installed in each Hospital trust HR and OH department. Nominated staff are trained and subsequently have Technical Support available via the TSSI HelpDesk telephone line.

Local Implementation Teams

The OHSC Project Team recommends that trusts devise early plans to set up a team of staff, led by an OHSC co-ordinator to oversee software installation, liaison with IT officers to connect PCs to the NHSNet, OH and HR staff training, initial data entry, and to review local protocols. Because of the importance of good communication with IT departments, a detailed operational note is included (left) for their information.

Timetable for Deanery installation:

London, KSS, Wessex, South Western, North Western, Yorkshire, Merseyside and Northern
INSTALLED
Summer & Autumn 2003

Trusts within the various Deanery areas are installed within approximately two months of the Deanery card issuing centre being installed.

NHS Occupational Health Smart Card System

Smart Card Scheme wins International Award for 'Best Healthcare Implementation' at the Advanced Cards Awards in April 2002.

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