Background: Charing Cross Hospital is part of Imperial College Healthcare. Charing Cross is an undergraduate teaching hospital and the serious injuries centre for West London thanks to its expertise in critical medical care. It is home to a new day surgery unit, the Riverside Wing, the world renowned Kennedy Institute of Rheumatology and the West London neuroscience centre. A full range of adult clinical specialties are provided at the hospital. Maggie's Cancer Centre, the first of its kind in England, is to open on the Charing Cross site in 2008.

The Project: Medical gases were only monitored through standard alarm panels, which were visibly and audibly monitored by the Estates department. Reaction to alarms after acknowledgement – was via the Medical Gas Authorised Person (AP). These alarms were then assimilated against hospital protocol, and escalated by the AP to the support company for medical gases. If the AP was aware of the alarm immediately, through his pager or internal radio receiver, he may have to check the alarm first before calling an engineer to site. This time-consuming process could have meant an unacceptable delay in rectifying the fault.

The Solution: SHJ provided a remotely monitored alarm system – EVOLUTION – which meant a significant time-saving at the start of this process. EVOLUTION represents the latest technology to assist APs and Estates Managers to manage their medical gases rather than react to alarms. The system is monitored 24/7 and 365 days a year by SHJ. This company has been supplying and installing medical gas pipeline systems for over 40 years to the NHS. Its Research & Development laboratory has just launched EVOLUTION as a digital add-on to existing alarm systems, so there was no need to replace existing alarm panels. The system includes a touch screen for easy supervision within the hospital, and a secure on-line monitor through any web browser. Statistics generated by the system can be viewed at any time, so that Managers can trend faults for internal review.

The whole system can be managed from anywhere on the NHS local area network, which means that internal authorised users are able to pull down reports and monitor the system from any PC on this network. SHJ can also remotely reset existing alarm panels through EVOLUTION, thus saving unnecessary call-out charges. Off-duty or out-of-hours personnel are now assured that, if a critical alarm is triggered on a panel, an SHJ engineer will acknowledge it and be on his way – sometimes before the AP is aware of the alarm.

The switchboard staff does not need to touch the screen but, if they wish, can press the fault button that has changed colour, and then check the Help screen to see what is actually required. This is of major benefit to them, as invariably, a temporary night shift switchboard operator, has little knowledge of the alarm panel and could easily call an engineer to site unnecessarily. With EVOLUTION, the system automatically makes the call if required. Other remedial actions are shown clearly on the screen. When the fault has been rectified, EVOLUTION automatically reverts back to normal, leaving a permanent record of the alarm, time-stamped when it was triggered and when it was resolved.

Conclusions: Because the system in the hospital is duplicated at SHJ, there is no need for a reactive response from the duty engineer. He can merely manage the situation and continue with other more important duties. Tests showed an engineer on call within two minutes of the alarm being raised.