Medical Technologies and Data Protection Issues

The following table provides an overview of the pertinent issues and concerns traversing law and technology. This overview may form the outline for a line of questioning to data protection authorities, health policy authorities, as well as healthcare providers.

Technology	Data Protection Issues	Examples of Questions
Electronic Health Records	This is perhaps the biggest topic sitting at the intersection of technology and data protection. EHRs are fast becoming standard in most healthcare provisions. These records are more accurate, cost-effective (in terms of storage) than paper-based notes. Related to the EHR is the concept of patient-controlled/accessed EHR, which has been implemented to varying degrees in different countries. This concept carries its own	- **Access rights;** sharing with other healthcare providers as well as the patient. - **Data integrity**; What sort of methods are used to ensure the integrity of the data? How are records kept accurate? - **Data security**; Where are these records stored? What security technology is being used? - Can patients opt-out of EHR/PHR schemes? What are the consequences? - **Outsourcing processing of data**: Does this occur in the country? Under what circumstances? Where is the data outsourced to? What sort of safeguards are in place?
Data Mining of	With the advent of more advanced and efficient data-mining and data-querying	- Is there a coordinated programme from the

Medical Records	techniques (e.g NoSQL, MapReduce, Hadoop) in conjunction with increased processing power and data storage, mining data has never been more informative, easier, and cost-effective. Healthcare is a natural sector in which to apply this technology, with particular impacts in epistemology, public health, health services research. However, there is a growing concern that these schemes may be implemented too quickly without considering patient confidentiality as well as the use of this of information, which may prejudice patients.	government to allow for increased data-mining of medical records? Are private entities allowed to access the data? Under what circumstances? - What sort of techniques and technologies are being used? To what end? - Are data subjects informed of this type of data-mining?
RFID	The constant identification of whatever (or whomever) has been tagged poses natural challenges for data protection. The ability to track and monitor patients and resources makes for more efficient provision of care but may have an impact on confidentiality. The RFID technology is also related to the data-mining mentioned above as it is another category of information that can be used to discern meaningful patterns in usage.	- How is RFID utilised in your hospital/clinic's (a) resource management, (b) patient care? - What types of database systems (and security) are implemented in conjunction with RFID use? - Issues of access, tracking, consent (RFID may be used without patients knowledge)