

Implant/Device Interoperability: Establishment of a National Database

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### Abstract

Critical issues of health care delivery are related to the efficiency and effectiveness of the decisions on carrying out the appropriate set of predictive, preventive, diagnostic or therapeutic actions. According to Zdravkovic et al. (2012), these decision are based on the availability, interoperability, and access to a wide set of information related to the patients' medical records, diagnosis, and available resources. By way of disseminating vital patient information, including corresponding implants and devices, better patient outcomes can be delivered. Additionally, implanted medical devices can present significant, life-threatening hazards in the magnetic resonance environment, essentially harming the patient. Ascertaining the specific hazards of individual devices when a patient presents for investigation can be time consuming (Macfarlane & Condon, 2008). However, in addition to being time-consuming, this does not account for the fact that failure patterns are not necessarily implant specific but can be associated with design features that are used in a number of implants (Blömer et al., 2015).

With the aim of minimizing the potential for error, a national database is to be created incorporating two major components: the processes involved in the implant manufacturing and implementation (process model); and the capabilities and resources required for the implant manufacturing and configuration. Numerous resources specify the importance of implementing such information technology (IT), despite the interoperable database for implant/devices not yet being nationalized. Ready access to data pertaining a patient's cardiac and/or orthopedic implant allows for proper care to be rendered while establishing a nationally accessible database.

References

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