



# Hamilton Institute

## Privacy Challenges and Solutions for Medical Data Sharing

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### **Abstract:**

Various types of data, including demographics, clinical, and genomic information, are increasingly collected and stored in Electronic Medical Record (EMR) systems and biomedical research repositories. Such data have been traditionally used in automating the workflow of healthcare, but were recently recognized as an invaluable source for performing large-scale and low-cost biological, medical, and healthcare analysis and decision making. These tasks are essential for the discovery of new drugs and therapies, and are a key step towards realizing the vision of personalized medicine. As a result, over \$50 Billion were pledged by the Obama administration in 2009 to promote technologies for managing and sharing medical data. Meanwhile, detailed medical data are increasingly disseminated beyond the institution they were collected by, in accordance with data sharing regulations, such as the policy of the National Institutes of Health (NIH) for genomic information. This, however, may pose serious threats to patients' privacy, which must be eliminated to comply with data sharing policies and legislation, such as the HIPAA privacy rule and the EU Directive 95/46/CE.

In this seminar, we will discuss the need of sharing medical data in a privacy-preserving way, review the existing policies and practices for sharing medical data, and present state-of-the-art approaches for ensuring that the disseminated data are protected and remain useful. We will also present interesting case studies using data from the US Census and the EMR system of the Vanderbilt University Medical Center, a state-of-the-art system that stores information about 2 million patients over 15 years.

**Venue:** Seminar Room, Hamilton Institute, Rye Hall, NUI Maynooth

**Time:** 2.00pm - 3.00pm

Travel directions are available at [www.hamilton.ie](http://www.hamilton.ie)