**Chapter 2**

**REVIEW OF LITERATURE**

There are not many methods proposed by researchers that help restrict or in that case prevent any fraud against the misuse of a patient’s private data. While a lot of research has been done on protecting an IT system against unauthorized access from attackers, not much work has been done on preventing sensitive information from being jeopardized, either due to abuse or carelessness, by authorized users. And since it is extremely critical that we protect sensitive data against any kind of malicious intent, there is an increasing need for a more advanced, and highly secure and accurate system.

There was a proposed system [1] which used a quantified-risk adaptive approach in order to keep

a check on the access of a patient’s privacy. The paper claims that even though doctors are authorized to access their patient’s data, in reality, there is also an inherent risk in each access. Their prosposed solution therefore, allows information consumers to have the freedom to choose what they want to access.

A user’s data-accessing activities are associated with quantified risk scores, which will be added up over time. Request to access a resource is granted if doing so will not make the user’s aggregated risk exceed his/her tolerance threshold set by the system; otherwise, the request is denied. They do this by calculating a relevance-relation function.

They determine what activity a certain honest doctor will perform with respect to a disease, hence calculating the probability that a certain record m will be accessed to serve purpose p. They also take special cases into consideration. Once the model is trained they expect that a malicious doctor would over access a patient’s data hence increasing the risk considerably.

The problem with this method is that it is not as accurate as one expects it to be. Another glaring flaw is that they have only considered one paramter to determine if a doctor is malicious, i.e. relevance of the data accessed.

The solution thus ends up ignoring myraid of other factors that can contribute towards determining spiteful activities, thus proving to be inefficient.

If we don't find another paper we write about clustering based analysis of the paper

which finds fraud in prescriptions, and then saying how this approach won't be useful to us