

Australian healthcare: a smart card for a clever country

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Abstract

In this paper we give an overview of smart card technology how a smart card could be used as a healthcare card and the benefits that would most likely result from doing so. The smart card memory can be zoned into different security levels. The top security zone may contain an individual's full medical history while the lowest security zone may contain the cardholders name and address. Access to the different zones depends on the level of security of the zone. The higher the security level the more restrictive the access method. Were smart cards adopted for the storage of medical histories it would change the form of medical information recorded, not merely convert paper files to electronic ones. Storage of an individual's medical history on a smart card raises important privacy issues. These privacy issues are discussed particularly as they relate to the Australian community.

Keywords: Smart card; Security; Medical database; Privacy; ID number; Healthcare

1. Introduction

Australia is a vast country with a comparatively small population. It has a population of 18 million and an area of 3 million square miles. At fewer than six people per square mile not only is it sparsely populated compared with countries in its region, such as Thailand and Vietnam which, have, respectively 280 and 560 people per square mile, but also compared with western countries such as France which has 280 people per square mile and even the USA which has 62 per square mile. Therefore it has peculiar difficulties in providing high quality healthcare to the entire population. Historically, Australia has been at the forefront of using technology to provide this

healthcare to its remote region known as the 'outback'. For almost 50 years the Royal Flying Doctor Service has provided medical advice and help to those living in remote regions of the outback. For many years this advice was provided via pedal radio and radiotelephone; today Australia has one of the most modern telecommunication systems in the world and this communication is provided to the remote areas by satellite. When the health incident cannot be dealt with via telephone, a doctor is flown in by a light plane, often it lands on a make shift runways.

Not only is Australia vast but also it is rich in natural resources. For many years Australia was referred to as 'A Lucky Country', because it thrived on the income from the export of these primary products. At the same time inefficient industries in Australia were protected by high

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