



Securing Clinical Data in Honduras: Exploring Cybersecurity Regulations and the Role of Blockchain

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INTRODUCTION

Universidad Tecnológica Centroamericana in Honduras is spearheading multiple IoT and medical information system projects. Ensuring information protection is vital for these endeavors, necessitating a clear understanding of the country's legal and regulatory framework. Amidst concerns over security and legal disputes, digital health data offers efficient tools for patient monitoring. However, the lack of security guidelines poses significant threats to healthcare institutions, emphasizing the need for robust cybersecurity measures. Honduras ranks poorly in global cybersecurity assessments, underlining the urgency for national strategies to mitigate cyber risks. The IDB and OAS have developed indicators, highlighting Honduras' low maturity in cybersecurity, urging enhanced capabilities in the region.

METHODOLOGY

A systematic review of literature and legislative documents from Honduras and the region, including reports from official government entities and the Inter-American Development Bank (IDB), assessed the regulatory framework for cybersecurity in protecting clinical data. This involved analyzing studies, draft bills, cybercrime cases, and relevant laws to understand the relationship between legal data protection regulations and technological advancements, particularly blockchain technology. Additionally, the review explored cybersecurity within the context of the Internet of Things (IoT), given the increasing use of connected devices in healthcare. The research question guiding this assessment was: "What is the current state of the regulatory framework for cybersecurity in the protection of clinical data in Honduras compared to other countries?" Information was sourced from various databases, focusing on articles from 2006 onwards, with subsequent scrutiny of Honduran legislation to identify key articles and definitions regarding data protection.

RESULTS

Based on the gathered information, a timeline was constructed to display the milestones in the legal realm of cybersecurity and data protection in Honduras, as shown in Fig.1. Taking into account the context of Honduras, it is feasible to develop a solution to information security issues in healthcare, leveraging the deficiencies of existing policies and turning them into strengths. This would be achieved by implementing such a tool in accordance with the creation of specific policies for its application

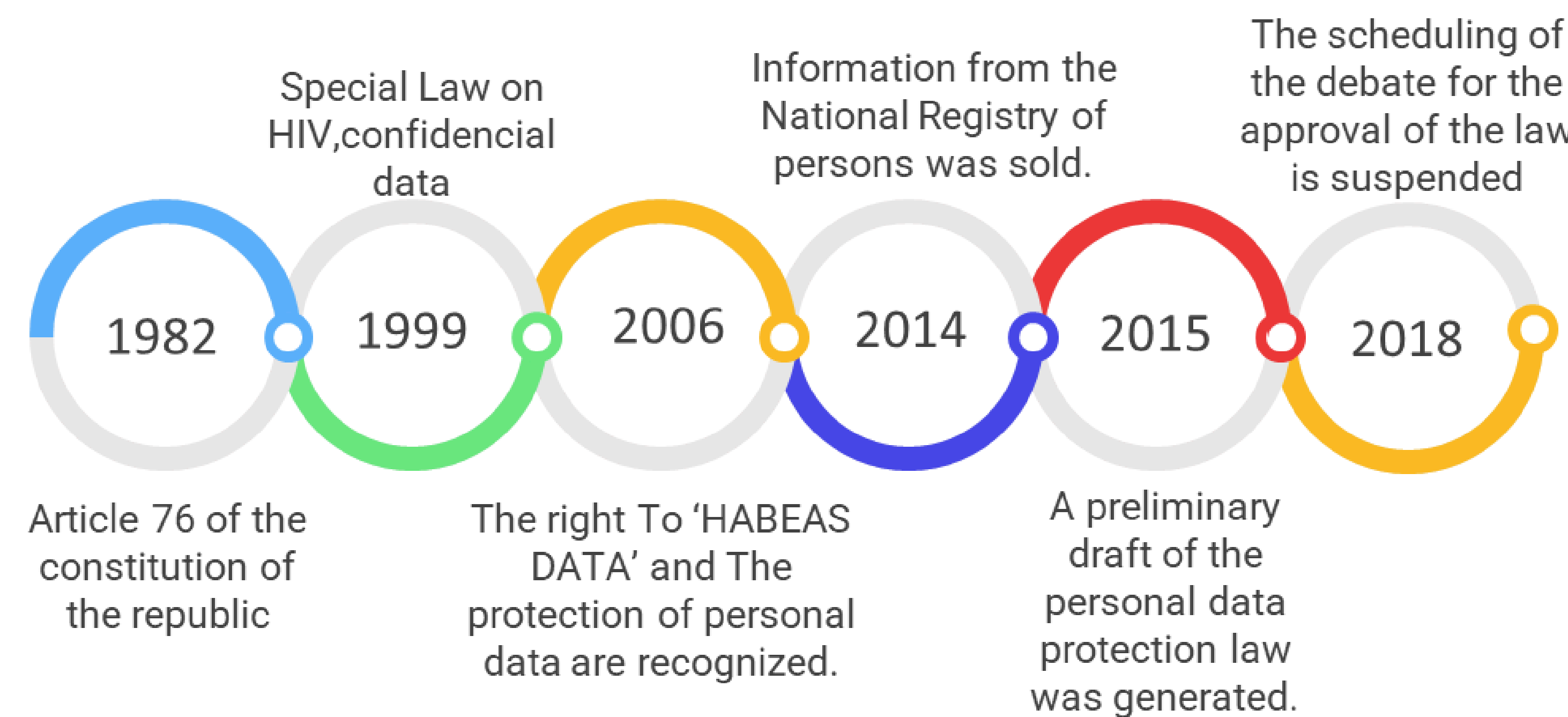


FIG.1: HONDURAS LEGAL AND REGULATORY FRAMEWORK TIMELINE

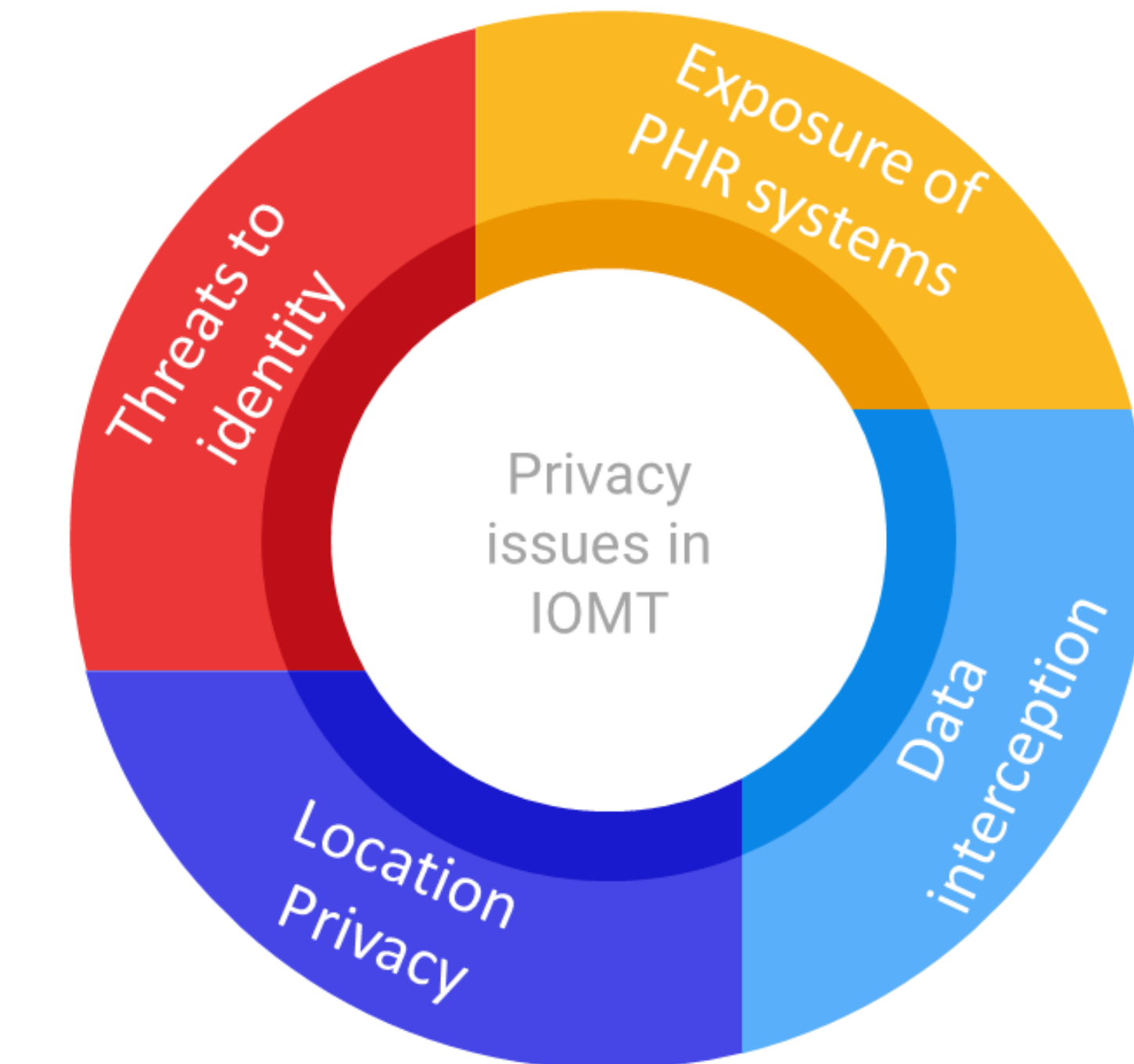


FIG.2: PROBLEMS IN IOMT

CONCLUSIONS

- Honduras lacks a specific data protection law, which complicates cybersecurity regulation, particularly in healthcare. However, this presents an opportunity to establish blockchain protocols in healthcare, offering potential enhancements in data security and efficiency.
- Cybersecurity in the Internet of Medical Things poses a significant challenge for Honduras and other nations. Urgent action is required to evaluate and implement solutions that safeguard data and the functionality of medical devices. Establishing a national legal and regulatory framework with suitable IoT protocols is crucial to ensure the availability of clinical data, protect patient privacy, and maintain the integrity of healthcare systems. Furthermore, integrating blockchain technology can enhance security and data integrity, aligning with established regulations.