

# Research on Stakeholder Collaboration Mechanism for Medical Data Sharing: A Three-party Evolutionary Game Analysis

RWD171

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## INTRODUCTION

The continuous growth of the elderly population and the rapid expansion of the smart elderly care service market have led to the accumulation of large amounts of valuable healthcare and elderly care data resources.

## OBJECTIVE

Promote collaborative participation in medical data sharing by balancing the interests of various stakeholders and establishing a stakeholder collaboration mechanism for the healthy and sustainable development of medical data sharing practices.

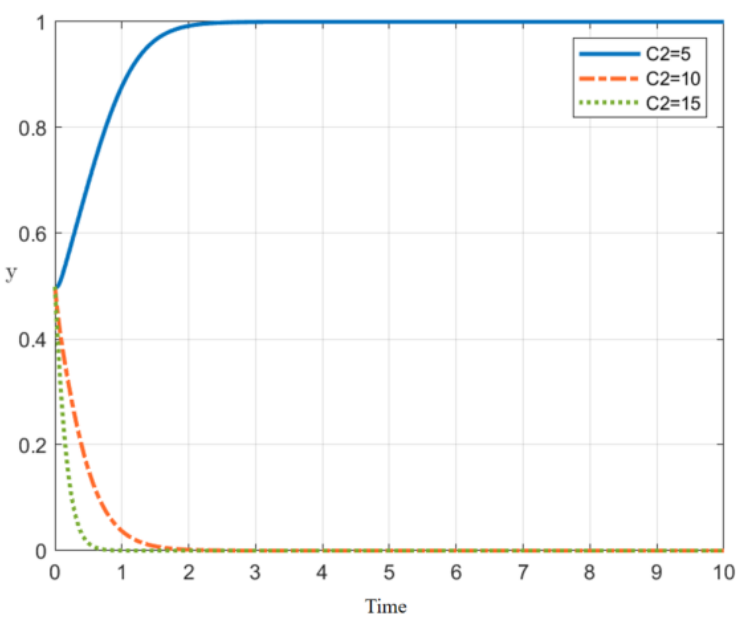
## METHODS

**Evolutionary game theory:** This study considers three key stakeholders (the government, medical institutions, and patients).

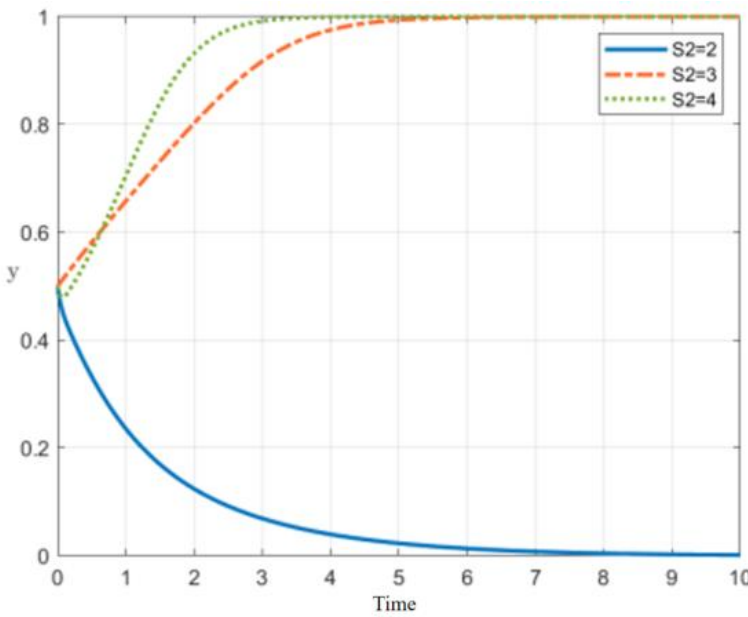
**MATLAB simulations** are employed to examine the impact of key factors on the evolutionary process.

## RESULTS

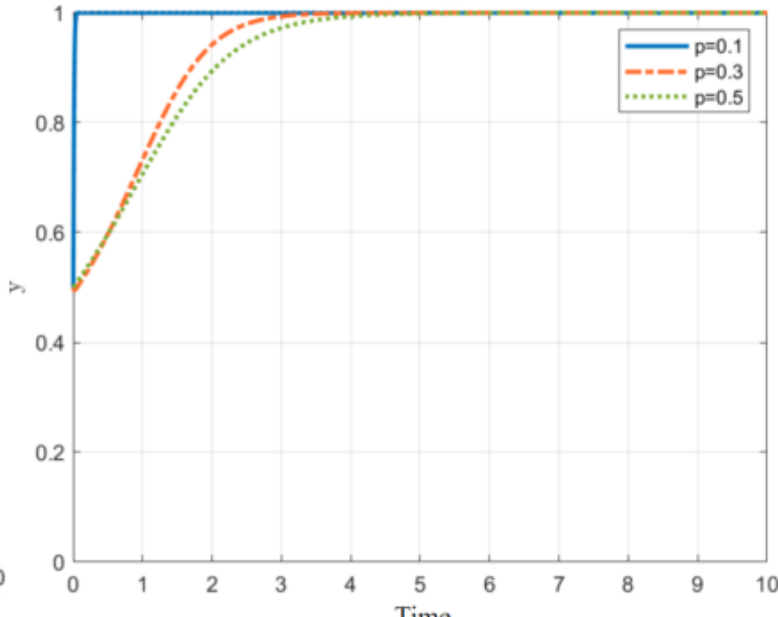
The evolutionary game process progresses through **8 stable strategy points** from the initial stage to the maturity stage of medical data sharing, demonstrating the dynamic nature of stakeholders cooperation evolution.



Reducing the regulation cost of governments has a significant positive impact on the strategy choices of both the government and medical institutions.



High-level government regulation effectively promotes stakeholder collaboration in medical data sharing



Strong privacy concern of patients impedes stakeholder collaboration in medical data sharing.

## CONCLUSION

Strong government regulation, cost reduction of regulatory measures, subsidies for medical institutions, and incentives for patients are critical to fostering collaboration among stakeholders in medical data sharing. These approaches mitigate risks, promote data sharing, and support the sustainable development of medical data sharing practices.