



The Cost Burden of MDR-Infections in Chinese Hospitals

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Health Grand Challenge Internship funded by CHW



Introduction

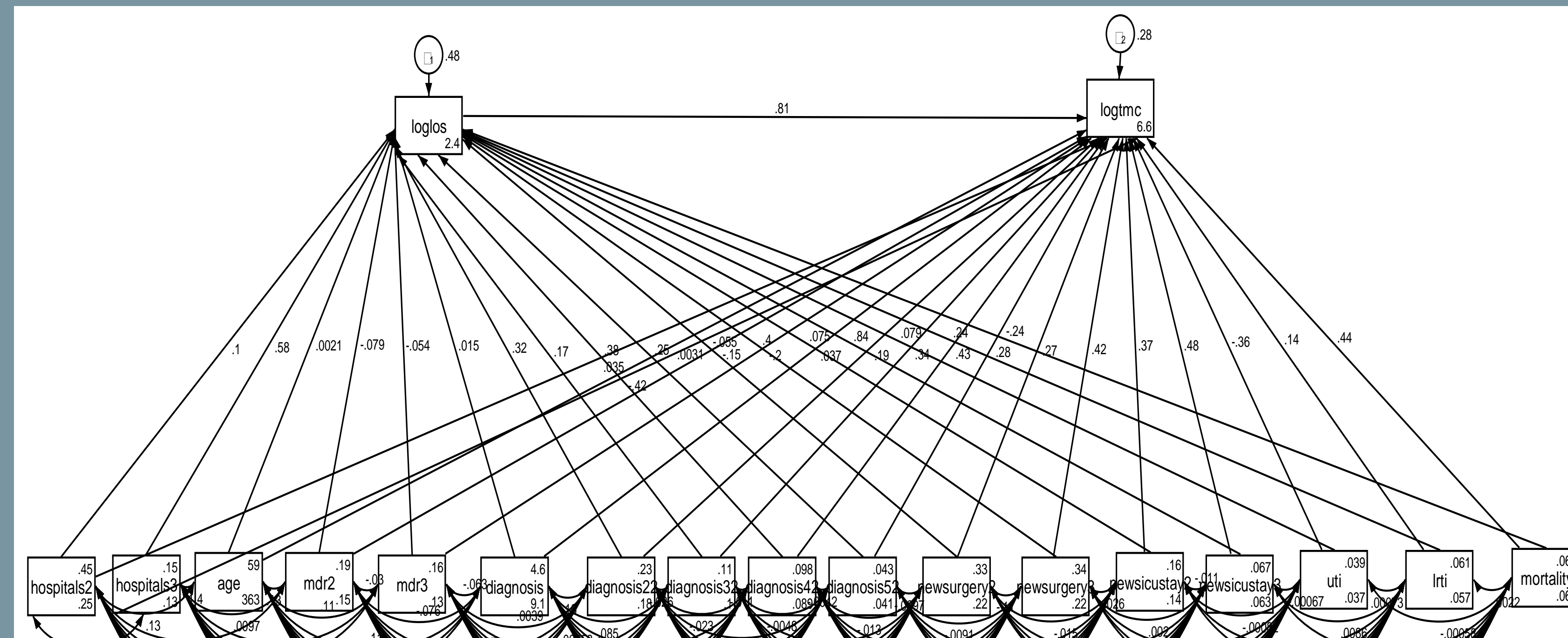
- Multi-drug resistance (MDR) is generally defined as a bacteria's resistance or non-susceptibility to 3 or more types of antimicrobial agents
- Drug resistance in bacteria stems from a variety of factors, including systemic over-prescription of antibiotics and failure to complete antibiotic courses.
- MDR and drug resistance in general present a public and global health issue due to increased difficulty of treating bacterial infections and greater costs to patients and healthcare systems

Objective

The aim of this project was to examine the cost burden of multi-drug resistance in bacterial infections and of other risk factors identified in data collection from three large provincial hospitals in China.

Methods

- The study sample consisted of 2,587 patients admitted to these hospitals within a specified period who were diagnosed with at least one of the five most commonly isolated bacterial infection types.
- A structural modeling equation (SEM) analysis method was used to examine the direct/indirect relationships between risk factors, total medical cost (TMC), and length of stay (LOS, an intermediate variable)



The structural equation model used for this project

Results

- The structural equation model shows that MDR, neoplasms, circulatory disease diagnosis, injury/poisoning, respiratory disease diagnosis, having undergone surgery, longer ICU stay, and urinary tract infections have **significant direct effects on total hospital cost.**
- Digestive system disease diagnosis, injury/poisoning, undergoing a large number of surgeries, very long ICU stays, and lower respiratory infection had **significant indirect effects on total hospital cost.**
- MDR has a **significant direct effect on hospital LOS.**

Discussion

- The significant cost burden of multi-drug resistance is a policy issue of interest, as public well-being and the sustainability of public health insurance system are impacted.
- The Chinese hospitals used as data sources are provincial hospitals in urban areas, which raises the need to examine conditions in rural areas where the prevalence and treatment of drug-resistant bacterial infection may not be the same.

Limitation

- Some cases of incomplete or inconsistent patient data provided by the hospitals were excluded altogether from the final analysis, which may have introduced bias.

Conclusion

- The effects of MDR on population health and health care utilization are vital areas of further study for the Chinese government in order to promote good public health policy that regulates the rise and costs of antimicrobial resistance.

Acknowledgements

This project and this summer would not have been possible without the support of many individuals and organizations: thank you to CHW and Mr. Gilbert Collins for providing this Health Grand Challenge funded internship. Thank you to ZJU School of Medicine, Professor Dong and the students of ZJU's Center for Health Policy Studies for the incredible collaboration and unforgettable experiences. Special thanks to Xuemei Zhen for willing to teach me about this issue with patience and generosity.



With the students and professor of the Center for Health Policy Studies office, as well as Mr. and Mrs. Collins