



Healthcare Supply Chain Risk Management in Singapore

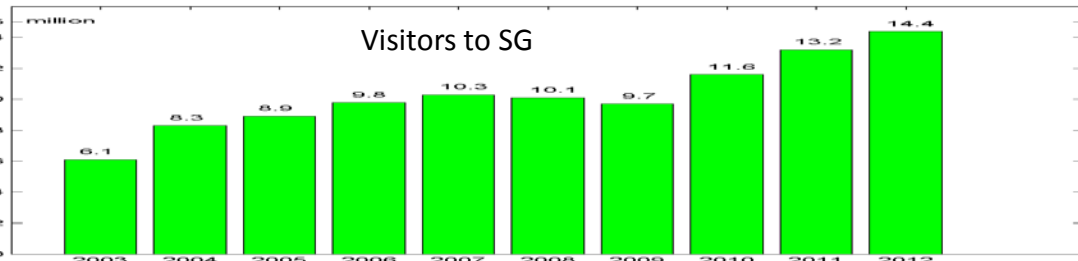
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Public health threats in SG

- A high infected-to-unexposed contact ratio due to its dense population
- Extrinsic vulnerability to the introduction of exotic pathogens as a result of its extensive connectivity to the world
- Endemic diseases due to its low-lying equatorial tropical environmental profile
- Climate change impact including temperature extremes, heat waves and heavy rainfall etc
- Environmental pollution caused by neighbourhoods

Dynamics in healthcare system

- To meet growing health service needs
- To sustain and improve health services
- To contain costs of delivering services

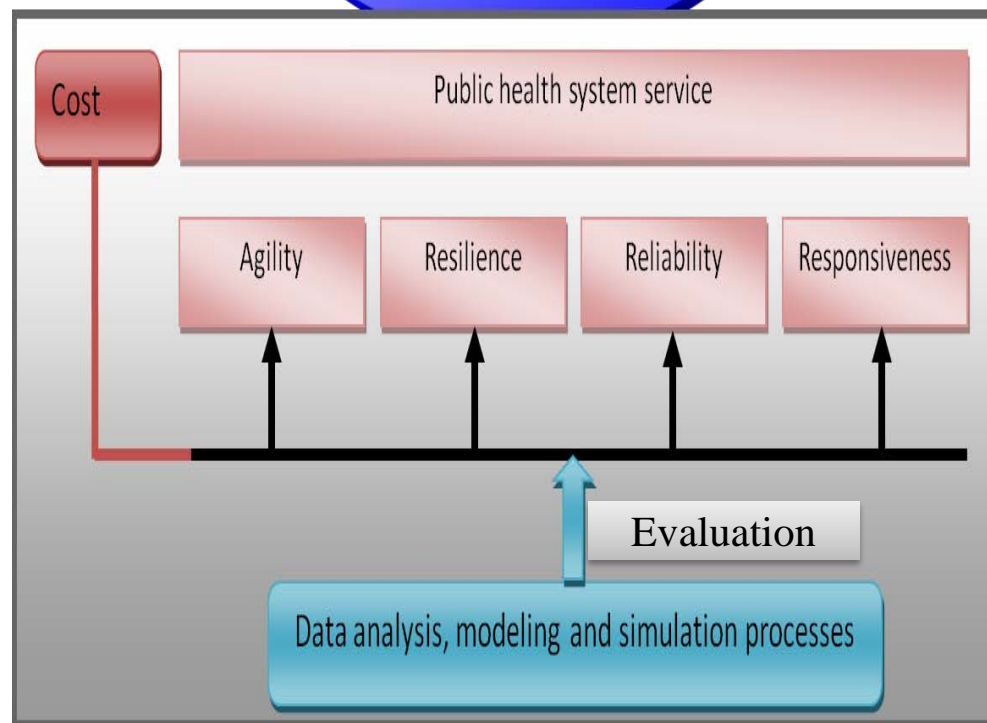
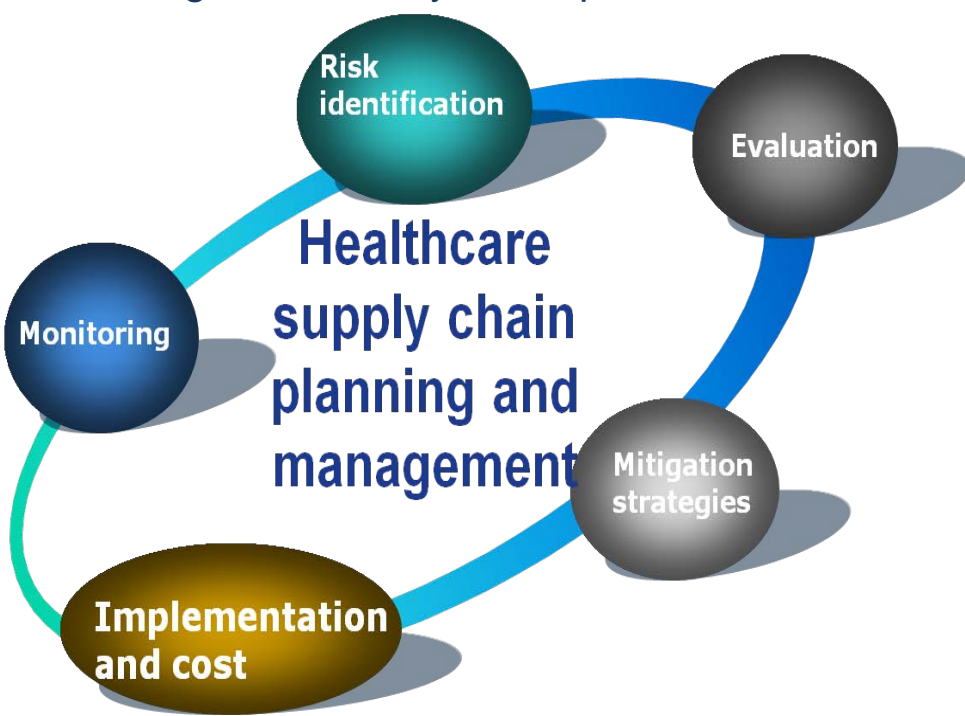


Local healthcare supply chain risks

- Internal risks: environmental risk, social risk, the volatility of pharmaceutical supply, emerging of disruptive infectious diseases and regulation variation
- External risks: labor, healthcare service to IT system uncertainty
- Network-related risks: insufficient interaction and cooperation between entities within healthcare supply chain

Our healthcare supply chain risk management system

- Identify and monitor healthcare supply chain risks
- Understand the structure and operation in health system
- Measure effectiveness of healthcare supply chain
- Improve visibility in the whole system
- Logistics and system optimization



Conclusions

- The risks to Singapore healthcare supply chain are multi-faceted
- Our proposed framework can assist risk management in healthcare supply chain:
 - Monitoring, identifying and evaluating risks
 - Reducing extra costs through optimization and
 - Assisting emergency management in healthcare supply chain due to disruptions.