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medicine,  
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# **What's Wrong with This Picture?**

## **Group Knowledge Elicitation with Progressive Concept Models**

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# Background

- PHA concerned about medical professional shortages
  - Rising average age and impending retirements
- PHA goal
  - Improve ability to plan medical professional capacity over 20-year horizon
- HSDL goals
  - Introduce PHA to System Dynamics as a more robust strategy tool
  - Build working relationship with PHA

# Questions

1. How to introduce System Dynamics to expert system participants with some systems thinking experience?
2. How to capture participants' expert knowledge of health care system and build on their systems thinking experiences?

# Method

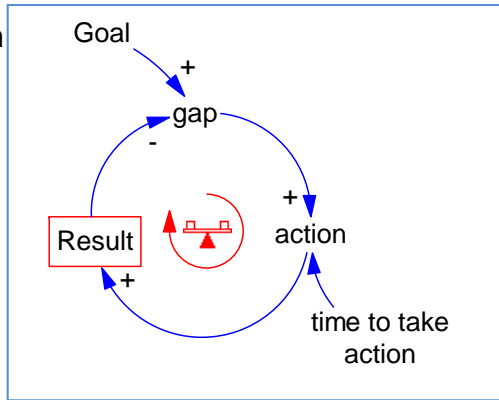
- Working with 30+ person group but not “group model building”
- Some participants have experience with system thinking, but not SD models
- Reference Modes Data were not available
- Adapted *concept model* approach to fit client profile and availability of information

# Method - Approach

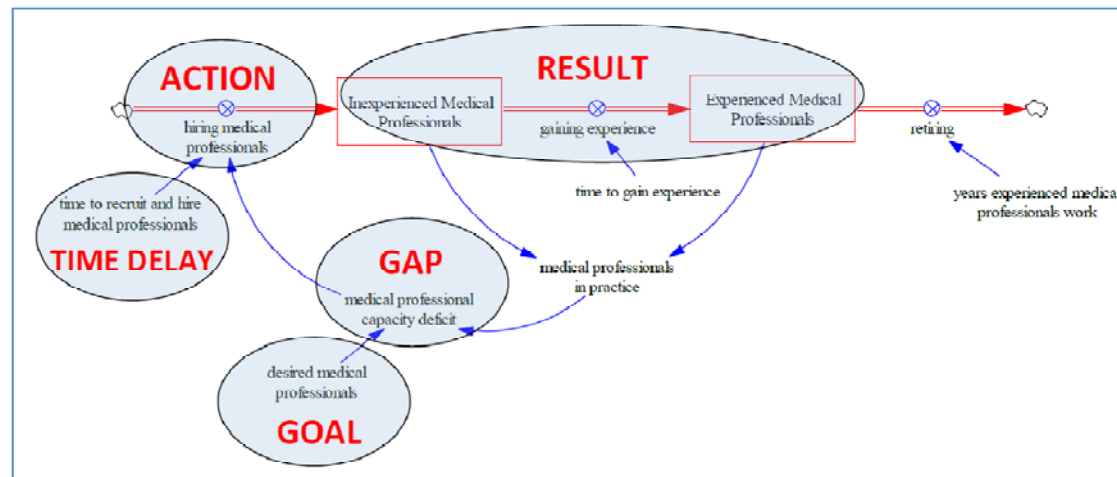
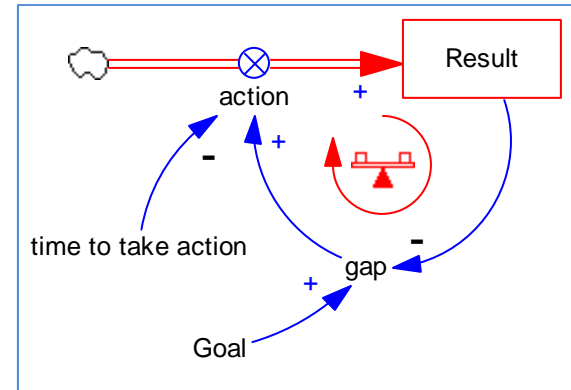
- *Concept model*
  - Began with client's systems thinking experience
    - Policy loop
    - Policy stock-and-flow diagram
  - Explained retirement issue in stock-and-flow diagram
    - Identified key policy components
- Invited participants to “teach” us about problematic system
  - “War stories” of difficulties and solutions

# Method - Concept models

Causal Loop Diagram



Stock & Flow Diagram



Stock & Flow Diagram

# Discussion

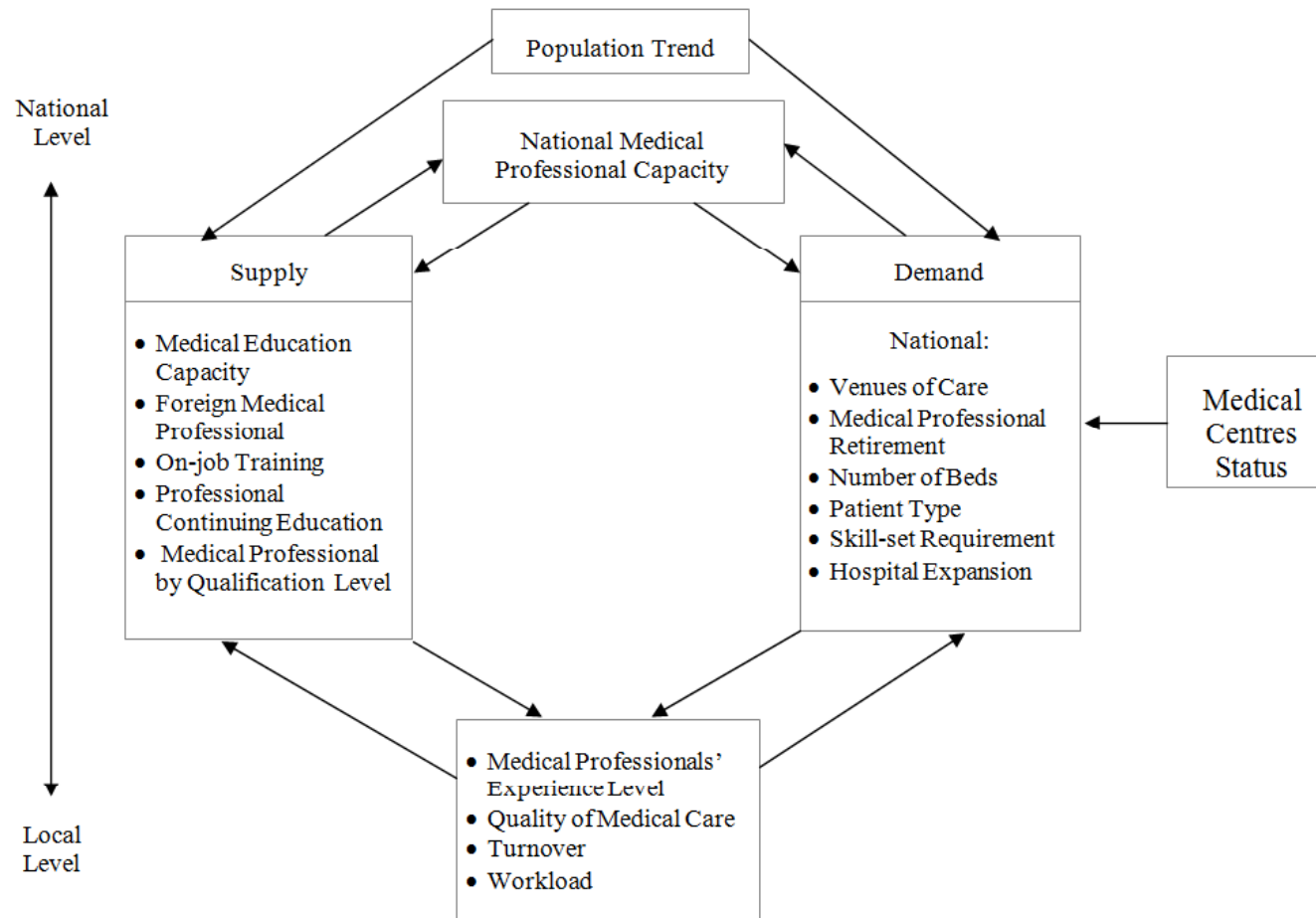
- War stories:
  - The recruitment of foreign medical professionals was suspended in order to reduce the training burden on the existing workforce
  - To retain staff, medical institutions promote medical professionals within shorter time frame than before
  - To increase the number of graduates, medical education institutions admitted larger pool of students and stretched beyond school capacity

# Discussion (cont.)

- Variables suggested by the participants
  - Medical Education Capacity
  - Foreign Medical Professionals
  - On-the-Job Training
  - Professional Continuing Education
  - Medical Professional by Qualification Level
  - Venues of Care
  - Medical Professional Retirement
  - Number of Inpatient Beds
  - Patient Type (acute, chronic)
  - Skill-set Requirement
  - Hospital Expansion
  - Medical Professionals' Experience Level
  - Quality of Medical Care
  - Turnover



# Conclusion - Summary of knowledge elicitation results



# Further Research

- Initiate formal assessment of impact on participants by assessing problem perception before and after session



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*Thank  
You!*

*Questions?*

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