Tufts-New England Medical Center

Phlebotomy Project

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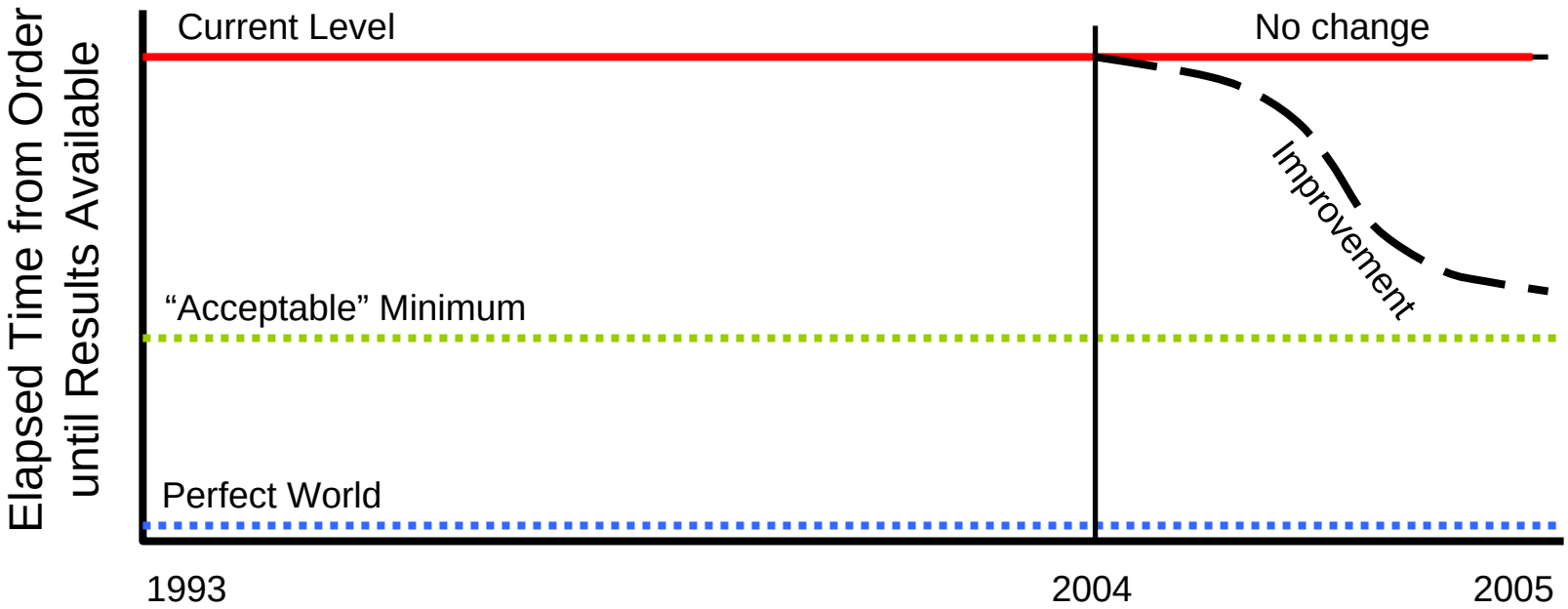
Hospital Overview

- Academic Hospital (Tufts Medical School)
  - Residents make the clinical decisions
  - Attending physicians supervise & teach

- Hospitalized Patients
  - Clinical decisions ← Information from laboratory tests on blood samples
    - Drawn multiple times daily (usually scheduled)
  - Census: 150-180 medicine & surgery patients

Problem Statement



Average Turnaround Time for Lab Test Results

1. Inefficiency
   - Impedes clinical decision-making
2. Lower Quality & Higher Risk
   - Delays patient care plan implementation
3. Lower Margins
   - Increases chance of postponed discharges

Work Context

- Two interdependent “organizations”
  - Laboratory & Phlebotomy (operations)
  - Physicians & Nurses (clinical)
- Constraints affect each group differently
  - No one group sees entire system
  - Nobody looking out for entire system
- Groups blame other groups, not system

Challenge: Getting Everyone Around the Same Table

- How did we meet this challenge?
  - Required tactful facilitation of entire team
  - Active listening → elicit frustrations
  - Use "objective" process flowcharts
    - Build understanding of how things work
    - Basis for communication among groups
- Results
  - "I had never heard that lab turnaround time delayed clinical decision making." – VP, General Services
  - Residents and nurses blame phlebotomy for being unresponsive → don't realize they are understaffed
  - Residents don't realize they make an implicit risk tradeoff: act without info or wait for info → patient safety

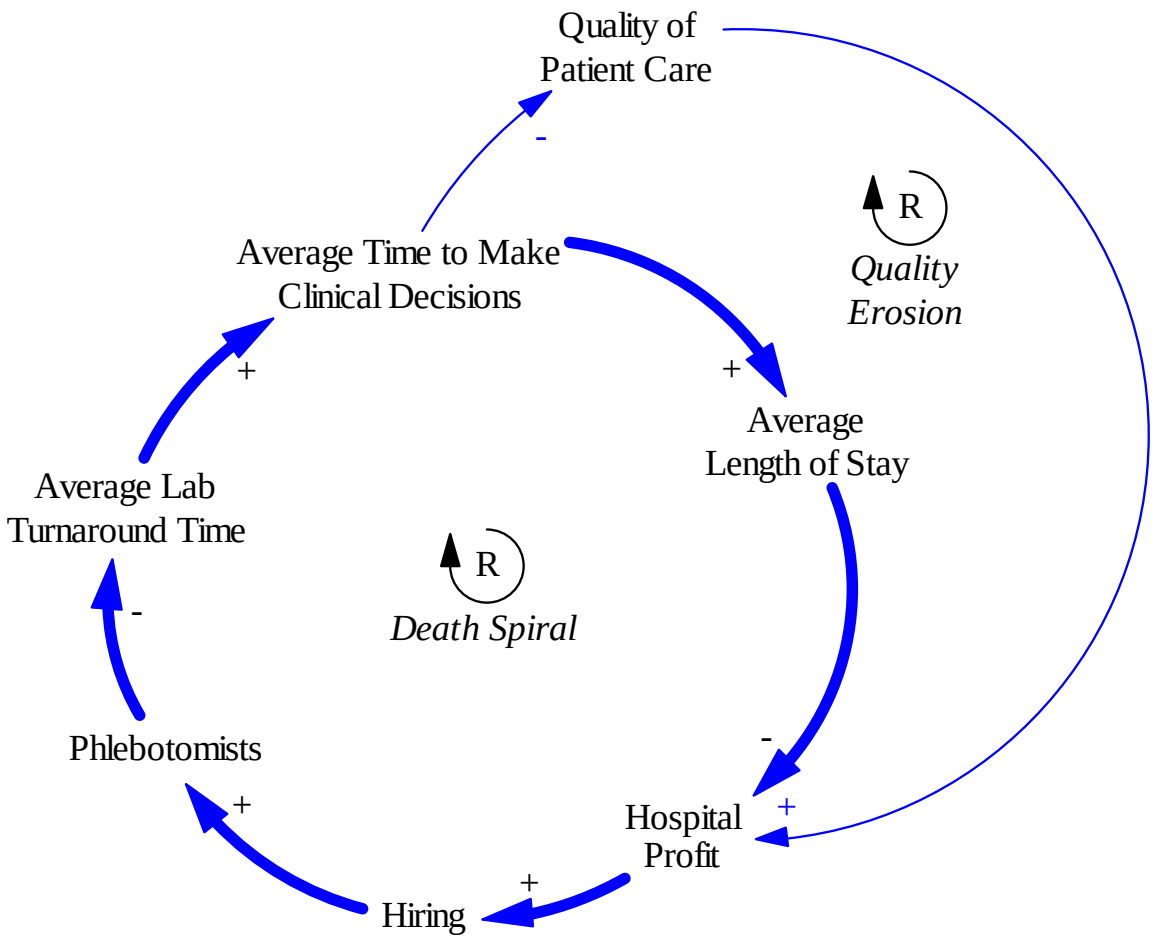
My Insights

Client Insights

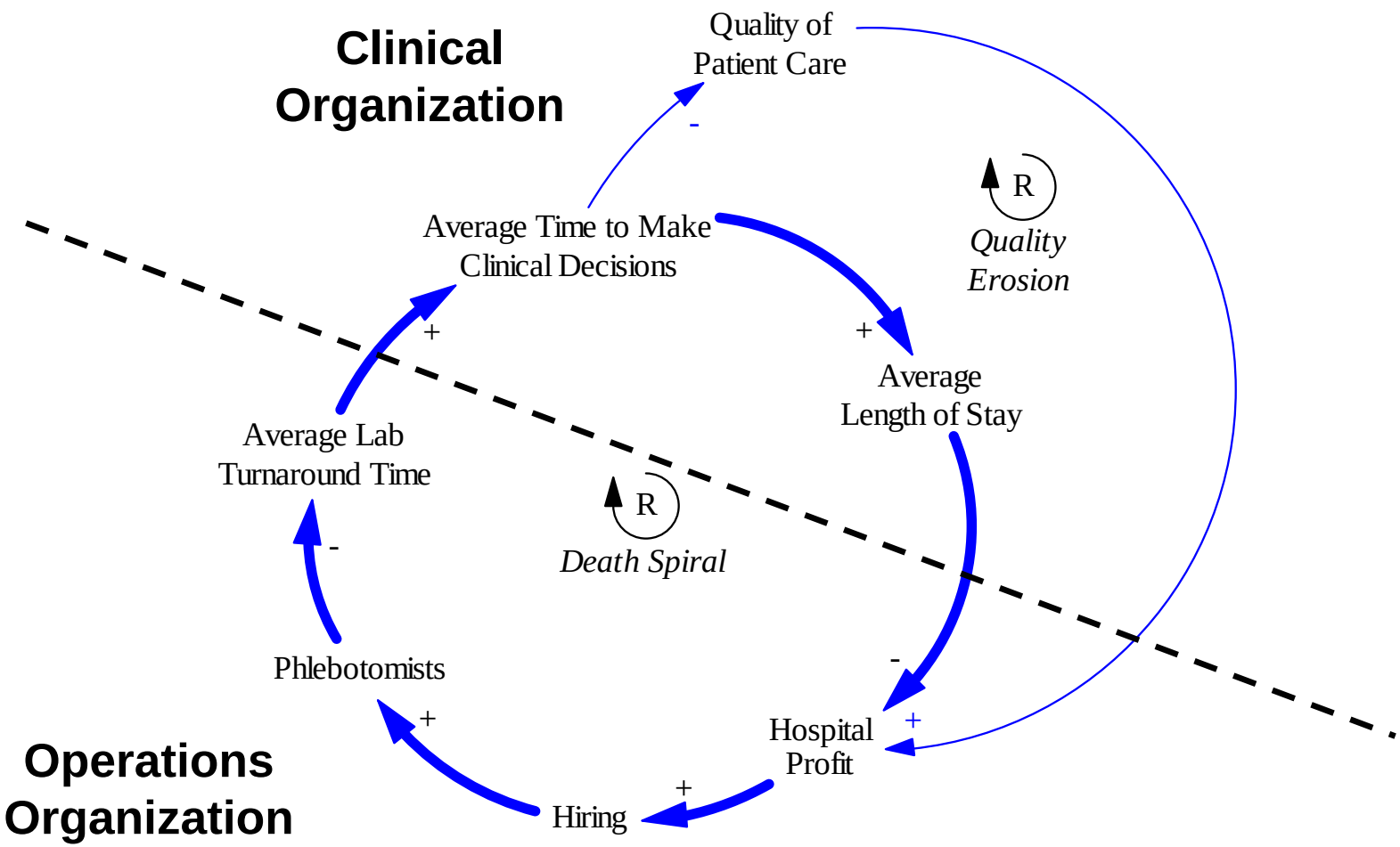
Client Insights from Reference Modes

- System in Equilibrium
  - Patient volume consistently close to maximum capacity
  - Staffing levels “frozen” because of chronic budget shortfalls
  - Phlebotomy productivity is stable and better than the benchmark
- Dissatisfaction with Lab Turnaround Time → “paradigm shift”, not erosion of current service

Putting the Pieces Together

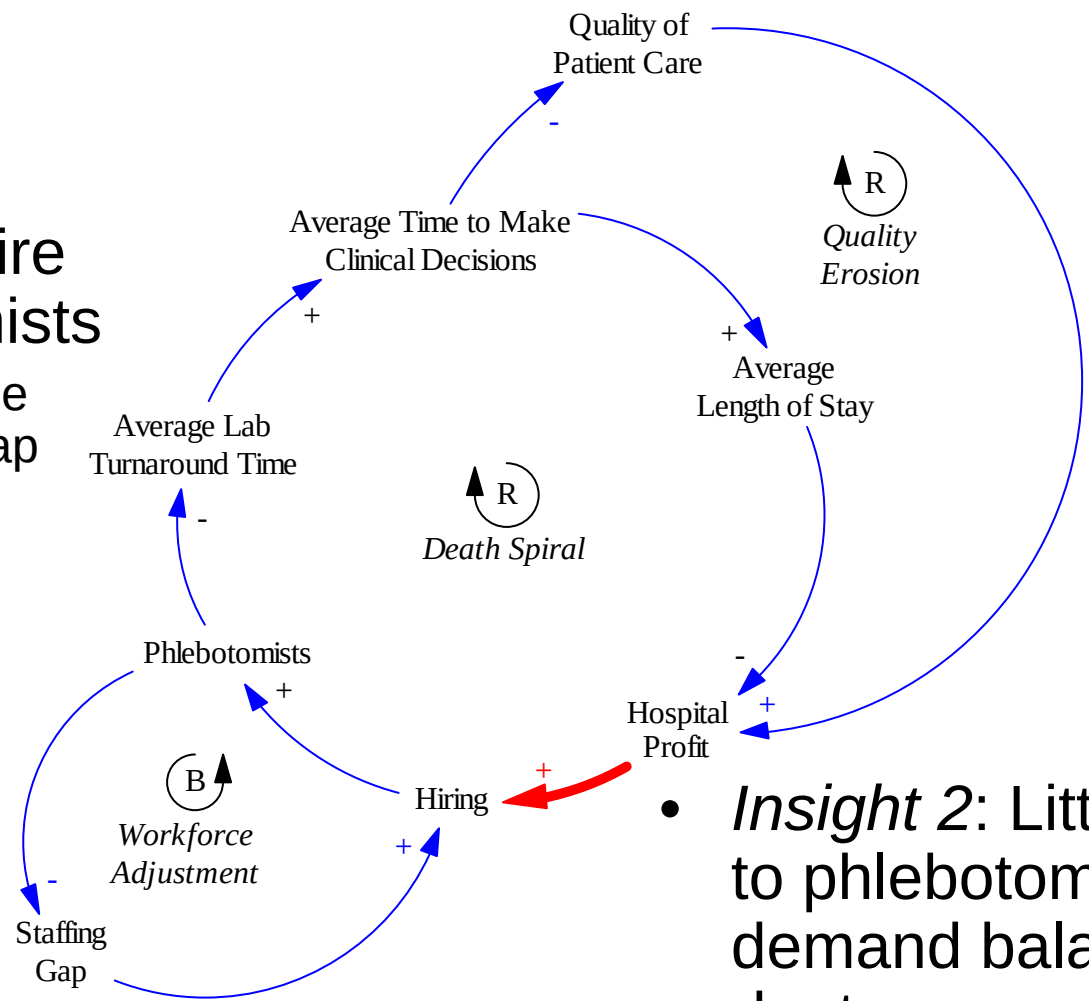


Putting the Pieces Together



Phlebotomy Staffing Policies (1)

- *Insight 1*: Hospital financials constrain ability to hire phlebotomists
  - Can't close staffing gap



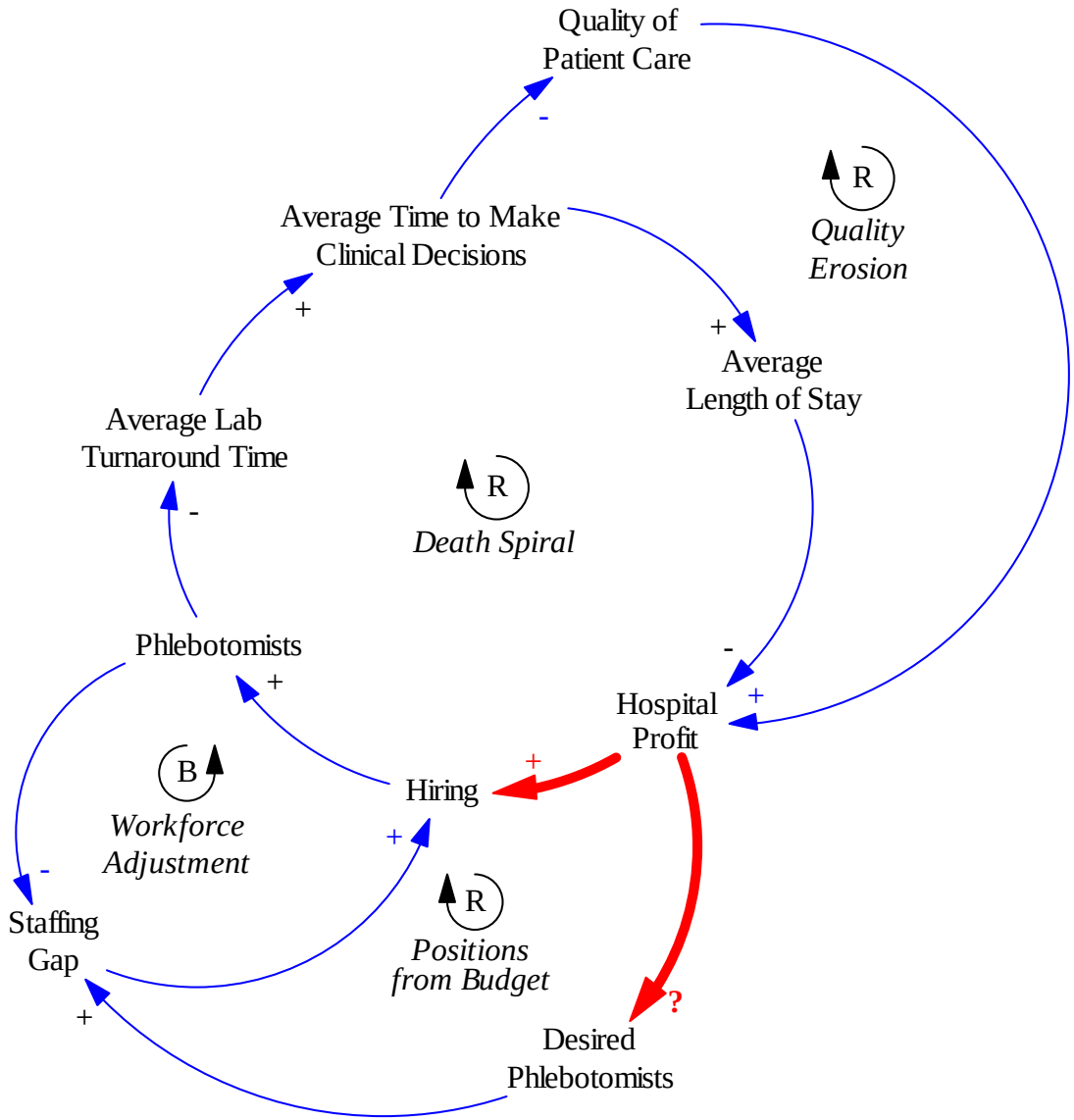
- *Insight 2*: Little attention to phlebotomy supply-demand balance across depts

Policy Implications

- Need proactive, periodic review of where phlebotomists are assigned

Phlebotomy Staffing Policies (2)

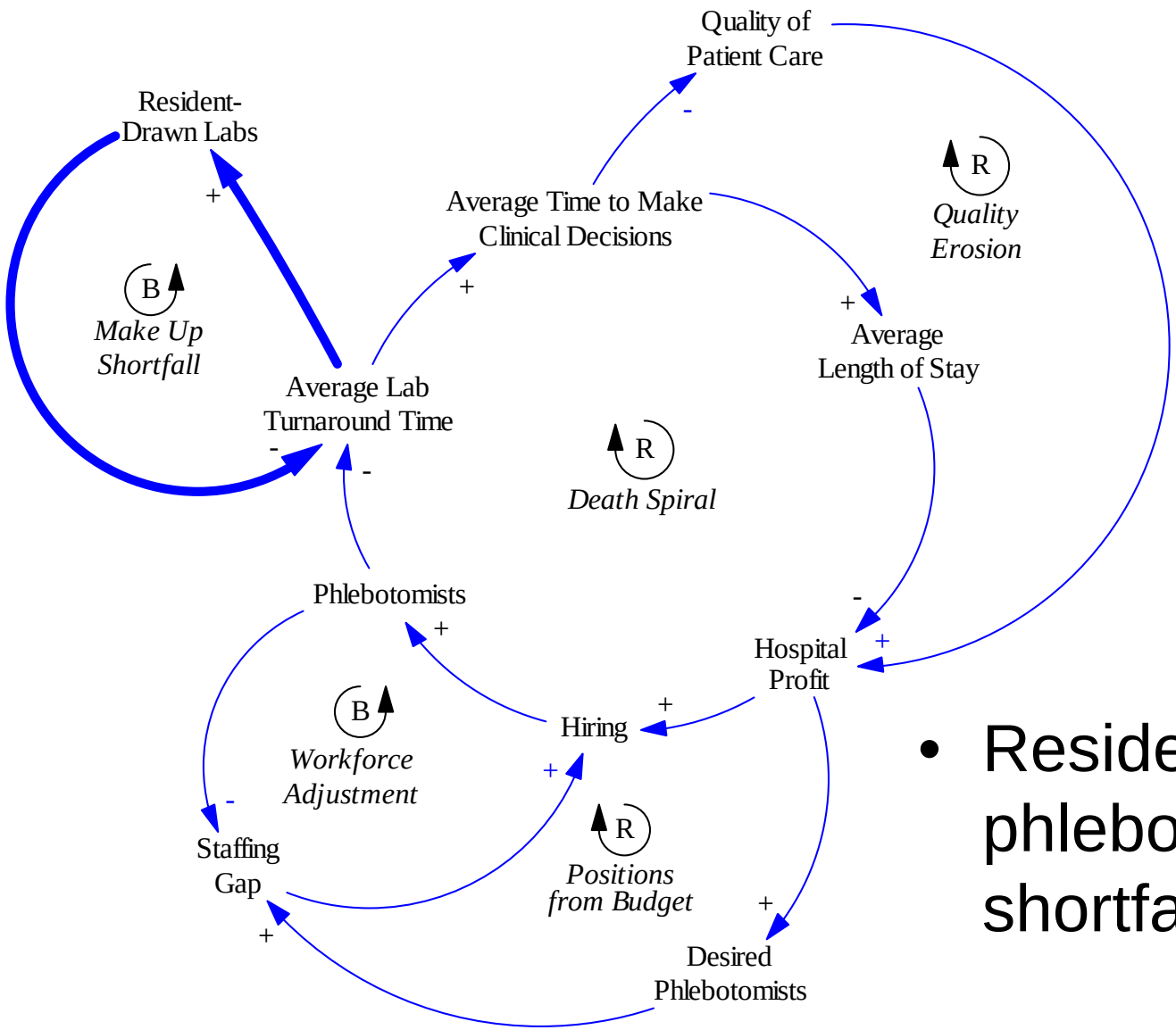
- *Insight 3*: Lower profitability results in fewer desired staff
  - Should phlebotomy be cut in a budget crunch?
  - What staffing level is "optimal"?



Policy Implications

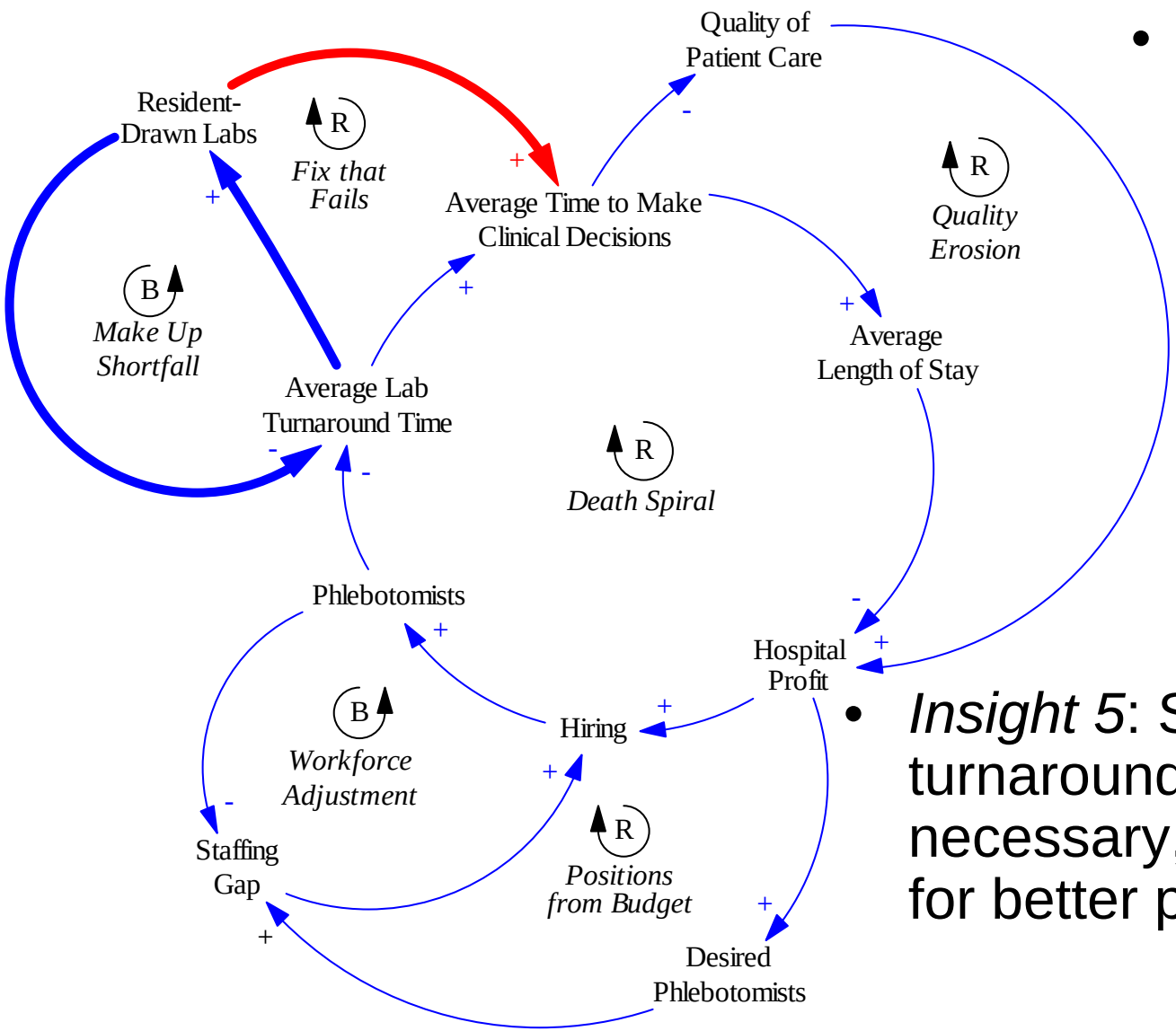
- Need proactive, periodic review of where phlebotomists are assigned
- Investments required to get out of the hole
  - Possibility: Hire *more* phlebotomists when profitability is low

No Silver Bullet



- Residents make up phlebotomy staffing shortfall

No Silver Bullet



- *Insight 4*: Residents as "solution" makes problem worse
  - where to allocate time
  - time to make clinical decisions is most important
- *Insight 5*: Shorter lab turnaround time is necessary, but not sufficient, for better performance

Policy Implications

- Need proactive, periodic review of where phlebotomists are assigned
- Investments required to get out of the hole
  - Possibility: Hire *more* phlebotomists when profitability is low
- Focus on improving timeliness of clinical decision-making and interventions
  - Pay special attention this high-leverage point
  - Don’t just fight fires when crises happen
  - Hard to measure abstract processes

Client-Reported Project Benefits

- Explore system response to changes
  - Justify incremental phlebotomy staffing
  - Time required to make clinical decisions is the high-leverage point
    - Info available earlier must be acted on earlier
    - more process improvements needed
- Insights not possible from discussion alone
  - Everyone tends to focus on the details of their area → need framework for systems thinking
  - Recognize that processes evolve around constraints (e.g. when rounds happen)