

Workshop 1 Wait Time for Hip Surgeries

Introduction In Ontario, many patients who need a hip replacement surgery have to wait significantly longer than the maximum acceptable waiting time of about 26 weeks. As a consequence, patients are exposed to additional health risks and they also face financial costs because of their reduced ability to work.

Task Write a non-technical summary report explaining to the Ministry of Health how it should design a piece rate contract to reduce the waiting time for hip surgeries. Write your report after you review the following questions:

1. Discuss the payoff functions and participation constraints for the Ministry and the physician.
 - Ministry's profits: Write down the profit function. How would you interpret p , q , and e in this case? What assumptions will you make about $q(e)$?
 - Physician's utility: Write down the utility function. How would you interpret $c(e)$ in this case? What assumptions will you make about $c(e)$?
 - Participation constraint for the Ministry: Write down the participation constraint. How would you interpret the Ministry's outside option?
 - Participation constraint for the physician: Write down the participation constraint. How would you interpret the physician's outside option?
2. Assume that physician effort can be observed. Write down and interpret the condition that determines the efficient level of effort.
3. Discuss the potential incentive problem in this relationship.
 - Explain why it may be difficult to observe or verify physician effort.
 - Explain why there may be a conflict of interest between the physician and the Ministry.
 - Explain why a contract that does not tie pay to output may not provide right incentives when physician effort cannot be observed.
4. Explain how you would design a piece rate contract if the Ministry cannot observe physician effort.
 - a. Write down and interpret the incentive compatibility constraint.
 - b. Write down and interpret conditions that determine the base pay and the piece rate.
 - c. Explain why this piece rate contract may induce the efficient level of effort.