

System Dynamic Model for Management of Lung Cancer Caseloads in Kenya Health System using Disease Pattern Analysis

Background

According to the WHO (2019), cancer causes more mortality than Malaria, TB and HIV combined globally. 70% of the global Cancer burden is in Low- and Middle-Income Countries (LMICs) (Joan, 2019) such as Kenya. In Kenya, as of the year 2019, cancer was rated the 3rd leading cause of death generally and second among non-communicable diseases. According to Max & Hannah (2018), cancer was rated at 7% of the overall mortality rate in Kenya.

Problem Statement

There is need to develop a System Dynamic Model for Management of Lung Cancer Caseload in Kenya for proper planning and preparedness by the government and stakeholders in providing appropriate healthcare to cancer patients.

In Kenya, many patients pay for their treatment out of pocket and those that may be in some form of insurance are generally not fully covered on cancer treatment costs. These costs result to an impoverishing effect to the affected families thereby leading to an estimated over 600,000 households being pushed into poverty each year.

Main Objective

To Control and Manage lung cancer caseload by determining and analysing its growth pattern using System Dynamic Model.

Specific Objectives

- i.To investigate the causes of lung cancer caseloads in Kenyan health facilities
- ii.To analyse the implication of lung cancer caseloads on the health outcomes in Kenyan Health facilities
- iii.To investigate the role of ICT in managing lung cancer caseloads by Kenyan Health facilities
- iv.To investigate the lung cancer caseloads patterns across Kenyan health system stream using pattern analysis Techniques
- v.To design a system dynamics model involving health information security management.
- vi.To propose a system dynamic model for managing lung cancer caseloads in Kenya's health system

Methodology

A mixture of Methodologies will be used for optimal results including:

- i. Factor analysis method
- ii. Pattern analysis
- iii. Descriptive, Exploratory/Explanatory Methodologies
- iv. Conceptual Modeling Methodology

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Track Classification: Masters and Doctoral Colloquium Abstracts