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National Chronic Disease Strategy versus National Chronic Disease Strategies

Paul Smetanin, RiskAnalytica
Paul Kobak, RiskAnalytica

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Background: Recent Canadian population-based health care discussions and initiatives have focused upon the question of whether a general national chronic disease strategy for Canada can be pursued in the absence of specific national chronic diseases strategies, such as the Canadian Strategy for Cancer Control. There is an absence of quantitative analysis in the literature on this issue, and the question is debated primarily upon qualitative grounds.

Method: The quantitative differences between a general national chronic disease strategy formed *with* and *without* specific national chronic diseases strategies was assessed against the criteria of: (1) generation of knowledge; (2) distribution of knowledge across participants; (3) communication efficiency; and (4) implied collaboration between participants. Interdisciplinary analysis that used methods from differential geometry and topology (geometrical techniques of physics) coupled with practical considerations of the Canadian political/economic landscape were adopted.

Results: While the results are highly dependent upon the structural assumptions adopted, a system based upon a set of specific national chronic disease strategies had been found to be consistently superior. Using assumptions of 5 chronic disease types, 40 demographic descriptors, 6 risk exposure types, 1 federal agent and 13 provincial/territorial agents, the results show that a system of specific national chronic disease strategies is: (a) 62% more effective in the generation of knowledge; (b) well balanced in the distribution of knowledge; (c) 82.6% more communication efficient; and (d) 4.5 times more collaborative.

Conclusion: Under the assumption that knowledge is a critical success factor for an enduring, efficient and effective approach to population-based chronic disease management and resource allocation, a general national chronic disease strategy based upon a system of specific national chronic disease strategies is found to be consistently superior to the alternative. This analytical conclusion provides a logical consideration of the issues for population-based health policy providers.