

ANALYSIS OF HEALTH PLANNING THEORIES – A SYSTEMATIC APPROACH

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ABSTRACT

Background: This article examines the usage of various theories in the perspective of health planning. Accounts of transformation initiatives often reveal little about past organisational and contextual planning conditions that contributed to success. This article aims to explain the historical usage of planning theories by aligning them to the current healthcare system.

Materials and Methods: A scoping review of literature using electronic database of PubMed, ScienceDirect, Google Scholar was done with special attention given to three specified planning theory in relation to health care planning. A total of 30 articles, reports and theses were selected and analysed. The analysis and findings are presented based on three different theories that has been selected which are the rational planning model, incremental planning theory and mix scanning planning theories.

Result: Rational planning model is a process of understanding the problem followed by establishing and evaluating planning criteria, formulation of alternatives, implementing them and finally monitoring the progress of chosen alternatives. Incrementalism refers to the method of change by which many small policy changes are enacted over time in order to create a larger broad based policy planning. Compared to some of the other budgeting methods used in healthcare, it is one of the easiest to put in practice. Mixed scanning can be said to be much less demanding and detailed compared to rationalised decision making. However, it is more comprehensive and broader compared to incrementalism.

Conclusion: Health planning involves a cycle of planning process in which the ultimate goal is to improve health status or optimise wellness of a community. Although mixed scanning theory with substance from incremental theory seems to be prominently used, one has to take into account all the current issues, goals and country current situations before deciding on the most relevant theory to be used.

Keywords: Health planning, Planning theories, Health planning theories

1.0 Introduction

Planning is a process, procedure, or method for setting goals, identifying and assessing options and developing strategies to achieve a desired goal. Generally, planning is important to improve the efficiency of outcomes by optimal usage of the available resources, widen the range of options and promote civic engagement and governance. Thus, planning is a critically important function and can be applied at all level of management and supervision.

Health planning refers to a process to accomplish required tasks in order to enhance and optimise health status of individuals as well as the populations. WHO defines health planning as “the orderly process of defining community health problems, identifying unmet needs and surveying the resources to meet them, establishing priority goals that are realistic, feasible and projecting administrative action to accomplish the purpose of the proposed programme” (WHO, 2017). In order to successfully control and prevent a disease, it is vital to understand the health issues that arise, provide and work the suitable solutions that help to overcome the health issue. Proper health planning and management are in much need in view of the increasing demand for medical and health care services with the limited resources.

Theories are at the heart of practice, planning, and research even in the healthcare system. All thinking involves theories, and it is not necessary to read academic texts about theories before using them—any more than it is essential to read texts on reproductive medicine before having a baby. Because theories powerfully influence how evidence is collected, analysed, understood, and used, it is practical and scientific to examine them.

There are multiple theories that may be applied in healthcare planning. However, the three most common theories used these days are rational planning theory, incremental planning theory and mix scanning planning theory. The rational model of decision-making is a process for making sound decisions in policy making in the public sector. Rationality is defined as “a style of behaviour that is appropriate to the achievement of given goals, within the limits imposed by given conditions and constraints” (Elliot, 2014). It is not widely practiced in healthcare as it depends solely on defining a problem when other context such as social factors, economy and political factors are not taken into account. Incrementalism is a way of development by adding to an already established system using a few incremental changes instead of a major change (Williams, 2015). This theory has been practiced in developed countries where the base of their health care system is already strong and only need minor tweaks from time to time to improve. Mixed scanning is best defined as an approach to planning that combines both rationalistic planning and incrementalist planning whereby the planner and decision maker takes in available information and explores alternative steps in a continuous way that moves from the global to the specific and more-detailed level (Geertman, 2006). This by far is the most popular form of planning theory and is commonly practices due to its flexibility and effectiveness. Having introduced briefly on planning theories, the aim of this article is to analyse the core principles, strength and weaknesses of these three main planning theories and subsequently provide a conclusion on its application in health care system.

2.0 Materials and Methods

Literature review was done in a series of steps using scoping review method with focus on three main planning theories. Two research questions were identified; (i) what are the main three theories in planning? And (ii) how are these theories applied in healthcare system? Relevant studies were identified using literature searching based on the formulated research question from the electronic databases, PubMed, ScienceDirect and Google Scholar. The phrases used for literature search were, 'planning theories', 'planning framework' and 'systematic health planning'. A total of 30 articles, reports and theses were identified, selected and analysed.

3.0 Results and Discussion

The analysis and findings are presented based on three different theories that has been selected which are the rational planning theory, incremental planning theory and mix scanning planning theories. Following on, the application of these planning theories in budgeting are discussed.

3.1 Rational Planning Theory

Rational planning model is a process of understanding the problem followed by establishing and evaluating planning criteria, formulation of alternatives and implementing them and finally monitoring the progress of chosen alternatives (Elliot, 2014). The aims of this theory are to be logical and follow the step given from identification of the problem through the solution. There are seven steps in this theory which are to identify and verify the problem, generating possible solution and alternatives, assessing all the possible alternatives, choosing the best solution, implementation, monitoring and evaluation of the chosen solution.

The rational planning theory is the development of an all-embracing plan using either a scientific or theoretical methodology (Macleods, 2001). Professional that are often related to this theory are often technicians with academic perspectives. They focus on techniques rather than on people, which can lead to a "we-will-take-care-of-you" and "we-know-what-is best-for-you" attitude (Hibino and Nadler, 1990). Therefore, it is more on product orientated.

However, the application of this theory in decision-making is difficult because social goals are often complex, conflicting and unclear. Value judgments are concerned with determining "what should be". In this regard, citizens are their own experts on what they value and believe in—it is personal, not scientific. Professional experts, who do not take these social goals and values into account, are likely to find citizens who become sceptical, resistant, angry or indifferent. People do not like being manipulated or patronized. This theory has high degree of control and more of a government rather than governance.

A fundamental criticism of rational planning theory is that the process needs to be more relevant to policy and should incorporate decision-relevant planning information and analysis (Kaufman and Jacobs, 1988). Other challenges include the long time it takes to develop a master plan, while in the meantime the context changed. The master plans were not flexible

enough to take the new constructions and other developments into account, which implied that the new developed master plan already was outdated before it even was implemented.

In addition, since the middle of the 20th century, the nature of rational planning has seen a shift from plans developed primarily by experts to “a framework for community consensus on future growth” (Kaiser and Godschalk, 1995). The emergence of consensus building as a method of deliberation is creating an opportunity for reformulating rational planning (Innes, 1996).

To sum it up, rational planning approach stresses satisfaction of needs as overall goal of planning. The approach accepts incomplete information. Processes of negotiation are the focal point to determine the goals and targets. There is no other reason for fixing the goals as the needs of the interests involved.

3.2 Incremental Planning Theory

Incrementalism focuses on the power-behavioural approach to planning rather than the formal systems planning approach. In public policy, incrementalism refers to the method of change by which many small policy changes are enacted over time in order to create a larger broad based policy planning. This was the theoretical policy of rationality developed by Lindblom to be seen as a middle way between the rational actor model and bounded rationality in relation to incrementalism (Quinn, 1978).

Even in processes that involve more extensive planning, incrementalism is often an important tactic for dealing reactively with small details as stated by Charles E. Lindblom, who developed Incrementalism in the mid-1950s. “The Science of Muddling Through” (1959), was an essay Lindblom wrote to help policymakers understand why they needed to consider a different approach when making policy changes. The goal for the new perspective of incrementalism was for policy makers to avoid making changes before they really engaged and rationally thought through the issue (Anderson, Sarah and Harbridge, 2010).

In summary, the strength of this theory lies in its simplicity as it is very simple to understand. Compared to some of the other budgeting methods used in business, it is one of the easiest to put in practice as one does not have to be an accountant or have much experience in business to use this form of budgeting. In comparison to Rational Theory, Incrementalism theory provides insights into conditions thus creating impetus for transformation initiative. It involves major changes in one or more system components—when past problem-solving tactics fail to remedy internal weaknesses or are poorly aligned with task environments (Kotter, 1997). An example would be; a very stable budget that exists from one period to the next and allows for gradual change within the company (Idenberg, 1993). However, such a simple method of budgeting does not provide employees with much reason to be creative. They have no incentive to innovate and come up with new ideas or policies since everything is limited. Hence it does not account for change and it is based on the idea that expenses will run much as they did before (van der Grinten and Kasdorp, 1999).

3.3 Mix scanning Planning Theory

Amitai Etzioni had proposed a new “third” way to analyse decision making process in an article published in 1967 which discussed on public policy decision making (Etzioni, 1967).

This approach is slightly similar to previous theories as it uses the essential components from both. Mixed scanning is less demanding and detailed compared to rationalized decision making. However, it is more comprehensive and broader compared to incrementalism (Etzioni, 1967).

Mixed scanning approach is one of the popular approaches. It has been utilised in various situations. In reality, most of the decision makers and planner do not have ample time to look into every problem in detail as well as to evaluate and test each possible alternative which require more time and higher budget. To speed up the process, managers are prone to use incremental planning approach in planning and decision making instead of using the former approach.

Medical professionals have been using mixed scanning approach since the beginning. In the field of medical practice, the doctor will treat a patient for his illness to improve health upon first contact, not necessarily wait for all the investigations results to come in. With a proper history taking and thorough physical examination, a doctor can make a possible diagnosis and treat accordingly. If the treatment is not working well, the doctor will get more information and proceed with the next action. This is a classic example of mixed scanning approach as the decision made to reach the objective but allow room for adaptation and modification when problem arise.

Mixed scanning approach recognises that daily business is probably conducted by making short-term incremental decision, but proposes that the organisation occasionally step back and review main alternative so that “obvious” dangers such as inflation or unemployment, or with more fundamental issues, such as the basic social order, can be removed and different lines of approach explored. Incremental decisions for the organisation would then be made within the context set by the fundamental decisions established through more comprehensive method. Like rationalism, this approach assumes that organisations should have the capacity to evaluate the results of different decision-making strategies and decide which is more effective and efficient. As a result, an organisation needs to have the capacity to implement such approach by modifying the accounting system, budgetary process and strategy setting to make an effective decision. Shropshire County Council, Derbyshire County Council, and Staffordshire County Council had scanned the both internal and external environments, and presumably made their decision by selecting the appropriate alternative. Therefore these councils can review the environment each year, select the appropriate procedures to manage the important issues, and then make a decision within incremental context (Mukdad, 2014).

The mixed scanning theory regarding policy formulation brings along with it a number of advantages for decision-making process. Firstly, it permits taking advantage of both the incrementalism and comprehensive rationality approaches in different situations. For example, ranking public officials often focus on the overall picture and are impatient with details, but mixed scanning can be applied to both levels of analysis. Secondly, mixed scanning permits adjustments to a rapidly changing environment such as issues of global concern (global security, poverty and diseases) by providing the flexibility necessary to adapt decision making to specific circumstance. In some situations, incrementalism will suffice. In others, the more thorough comprehensive approach is needed. Thirdly, mixed scanning considers the capacity of the decision maker. All do not enjoy the same ability. Generally speaking, the greater the capacities of the decision-maker are, the more encompassing the level of scanning he or she can undertake. The more scanning, the more effective the decision-making process becomes.

Two crucial questions regarding the usefulness of mixed scanning may be asked, namely, how to determine the conditions under which mixed scanning, rather than the incremental and rational approaches should be used; and how to determine the extent to which each of these approaches should be applied. It is important to point out that the study discovered that, in the current highly dynamic environment, which is informed by globalization initiatives, a predominantly incremental or mixed-scanning approach could greatly simplify the decision-making process. Similarly, in a more stable system, where decisions can be isolated and the programmes can be agreed upon, the advantages of comprehensive rationality come into play more appropriately (Ijeoma, 2007).

3.4 Application of Planning Theories in Health Budgeting

There are certain characteristics of health services that support an incremental approach. Health service organisations are often large and complex with decisions having to be made within a short time period. Thus, it is easier to manage certain aspects that needs budget revision using the incremental approach rather than overhauling the whole budget from scratch all over (Scholes and Darwin, 1994). In addition, the budget often has to be dealt at both the administrative and legislative levels. Administrators find it easier to communicate a few changes to politicians within the annual decision making process to get quick decisions. Slow adjustment to budgets are often easier to implement than sudden shifts in priorities.

In the context of Malaysia, the first Malaysia Plan was started in 1966 and the 5 yearly health plan had been reviewed many times. There was a structured evaluation of the health plan during the 7th Malaysian Plan period in which the results were used to develop the subsequent health plan under the 8th Malaysia Plan (Yon, Hamidy, & Lin, 2001). While the theory behind it was not mentioned specifically, the principle of developing the health plan during the 8th Malaysian Plan was mainly based on the incremental planning theory where most of the plans were maintained with certain level of improvements. However, during the midterm review of the 9th Malaysian Plan, the outcome based assessment approach was introduced and many recommendations were made to ensure that projects and programmes were in line with the Fourth (4th) National Mission Thrust which is to improve the standard and sustainability of our life quality (Ministry of Health, 2010). The flexibility of the health plan during the period of the 9th Malaysia Plan simulate the mixed scanning theory.

There is another school of thought that divides all problems into two, namely 'wicked' and 'tame' problems (Rittel and Webber, 1973). A wicked problem is a problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognise. Usually, there is limited or no understanding on a wicked problem for instance, an epidemic, a disease outbreak or a disaster. On the other hand, a tame problem has a definitive solution and also may be solvable through lessons learned solving a previous and similar problem (Hepworth, 2015). These include project planning and services planning where a good understanding exists on the subject matter. In these 'wicked' and 'tame' problems, the incremental approach is preferred for the former and the rational approach is preferred for the latter due to their nature (Rittel and Webber, 1973).

Policy and plans will remain as official statements, if there is no effective action taken to implement them (Wren and Bedeian, 2009). In the Malaysian case, health planners need to synthesize workable strategies to link policies in theory for it to happen in practice (Mooney, 1989). However, in most of the health plans, there was no time limit by which plans or targets

must be achieved, and the mechanism by which resources were allocated did not promote for change instead faithfully follows the historically incremental and politically acceptable method (Chongsuvivatwong et al., 2011). One of the weaknesses in the incremental planning budgeting process is that incremental method is based on inputs and the budgeting system is based on outputs resulting in the system not able to link between estimation of inputs and outputs, to account for fluctuations in healthcare budget requirement (Montes, Reyes, and Tabunlertchai, 1995). Therefore, a proper and pragmatic planning framework is desirable so that all objectives are correctly stated, variables and potential alternatives are considered and the final output quantified as whole.

Apart from budget planning, mix scanning was also applied in the management of Nipah virus outbreak that occurred in Malaysia in 1999. Initially, rational planning was carried out after careful consideration of the options. However, the outbreak persisted and incremental approach subsequently implemented, but to no avail. Finally, mix scanning method of planning was executed and the outbreak was successfully contained and stopped (Chua, 2004). This indicates that in a situation, planning may involve more than one health planning theory and method in order to solve any issues successfully.

4.0 Conclusion and recommendation

Health planning involves cyclical planning process with the ultimate goal to improve health status or optimizing wellness of a community. The method of developing the health plan will depend on the theory behind it. Health plan differs from one country to another and even from time to time depending on the current health situation. Therefore, both administrators and legislators needs to be flexible and knowledgeable in all aspects and be able to use one tactic over another in order to tackle an issue.

In summary, health planning can be developed based on any theory. From the above analysis, there is no single theory that will fit perfectly in all context for health planning. One has to be flexible and take into account all the current issues, goals and current situation before deciding on the most practical and effective theory to be used.

Acknowledgement

The authors would like to acknowledge the Director General of Health Malaysia and the Malaysian Armed Forces Director General of the Royal Medical Corps for granted permission for staff of Ministry of Health and Ministry of Defence respectively to publish this manuscript.

Declaration

We, the authors declare that here is no conflict of interest regarding publication of this article.

Authors contribution

Author 1- 4 : Information gathering, preparation and draft of manuscript

Author 5 - 8 : Draft and editing of manuscript

Author 9 - 10 : Initiation of idea, review and final editing of manuscript

References

- Anderson, Sarah and Harbridge, L. (2010). Incrementalism in appropriations: Small aggregation, big changes. *Public Administration Review*, 70(3), 464–474.
- Chongsuvivatwong, V., Phua, K. H., Yap, M. T., Pocock, N. S., Hashim, J. H., Chhem, R., Lopez, A. D. (2011). Health and health-care systems in southeast Asia: Diversity and transitions. *The Lancet*, 377(9763), 429–437.
- Chua Kaw Bing. (2004). The discovery of Nipah virus: A personal account. *Neurology Asia*; 9 : 59 – 63
- Elliott, M. (2014, February 7). History and Theory of Planning by Michael Elliott - PDF Drive. Retrieved February 19, 2017, from <http://www.pdfdrive.net/history-and-theory-of-planning-e202787.html>
- Etzioni, A. (1967). "Mixed-Scanning: A 'Third' Approach to Decision-Making," *Public Administration Review*, 27(5).
- Geertman, S. (2006). Potentials for Planning Support: A Planning-Conceptual Approach. *Environment and Planning B: Urban Analytics and City Science*, 33 (6), 863-880.
- Hepworth, M. (2015). 'Wicked 'and 'Tame' problems.
- Hibino, S and Nadler, G (1990) Breakthrough Thinking. Rocklin, California: Pima Publishing and Communications, USA.
- Idenberg, P. J. (1993). Four Styles of Strategy Development. *Long Range Planning*, 26(6), 132–137. [https://doi.org/10.1016/0024-6301\(93\)90215-2](https://doi.org/10.1016/0024-6301(93)90215-2)
- Ijeoma E.O.C., (2007), *Rationality, disjointed incrementalism and mix scanning theories for decision-making on globalization*, *Journal of Public Administration* Vol 42 No 8.
- Innes, J. (1996). "Planning Through Consensus Building." *Journal of the American Planning Association*, 62 (Autumn 1996): 460-472.
- Kaiser, E. and Godschalk, D. (1995). "Twentieth Century Land Use Planning." *Journal of the American Planning Association*. 61 (Summer 1995): 365-385.
- Kaufman, J. and Jacobs, H. (1988). "A Public Planning Perspective on Strategic Planning." In Bryson, John and Einsweiler, Robert (eds.). *Strategic Planning: Threats and Opportunities for Planners*. Chicago: American Planning Association Planners Press.
- Kotter. (1997). Leading Change: Why Transformation. Harvard Business Review.

- Lane, M. B. (2005). Public Participation in Planning: an intellectual history. *Australian Geographer*, 36 (3), p. 283-299.
- Macleod, D. 2001. Planning & Environmental Information. Retrieved February 20, 2017, from <http://www3.sympatico.ca/david.macleod/PTHRY.HTM#PTHRY1>
- Ministry of Health (2010), Country Health Plan 2011-2015. Retrieved February 27, 2017, from http://www.moh.gov.my/images/gallery/Report/Country_health.pdf
- Montes, M. F., Reyes, R. A., & Tabunlertchai, S. (1995). Macroeconomic management in Southeast Asia's transitional economies. Retrieved from <http://scholarspace.manoa.hawaii.edu/handle/10125/23842>
- Mooney, G. (1989). The demand for effectiveness, efficiency and equity of health care. *Theoretical Medicine*, 10(3), 195–205.
- Mukdad Ibrahim, (2014), *Mixed scanning approach to budgetary decision making: A review*, *Journal of management & Public Policy* Vol 6 No 1, pg: 14-20.
- Planning tank (2017, January 21). Rational Planning Model. Retrieved February 19, 2017, from <http://planningtank.com/planning-theory/rational-planning-model>
- Quinn, J. B. (1978). Strategic change. *Sloan Management Review*, 20(1), 7–19.
- Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy sciences*, 4(2), 155-169.
- Seal, W. (2003) *Modernity, modernisation and the deinstitutionalisation of incremental budgeting in local government*. *Financial Accountability and Management* 19(2), pp.93-116
- Scholes K and Darwin J (1994). Exploring public sector strategy: a casebook. Sheffield: Sheffield Hallam University.
- van der Grinten, T. E., & Kasdorp, J. P. (1999). Choices in Dutch health care: mixing strategies and responsibilities. *Health Policy (Amsterdam, Netherlands)*, 50(1–2), 105–22.
- Wikipedia. (2017, February 17). Rational planning model. Retrieved February 19, 2017, from https://en.wikipedia.org/wiki/Rational_planning_model
- Wren, D. A., & Bedeian, A. G. (2009). *The Evolution of Management Thought* Sixth Edition.
- World Health Organisation. (2017). Health Systems Strengthening Glossary. Retrieved from http://www.who.int/healthsystems/hss_glossary/en/index5.html.
- Yon, R. B., Hamidy, M. A., & Lin, C. Y. S. (2001). Evaluation of the Seventh Malaysian Health Plan: a new approach. *Asia Pacific Journal of Public Health*, 13(1), 54-58.