

Priority Setting and Resource Allocation in Healthcare: Learning from Local Government

**William Hall, MSc, PhD Candidate
Centre for Clinical Epidemiology & Evaluation
Vancouver Coastal Health Research Institute**

**Neale Smith, MA, MEdes
Centre for Clinical Epidemiology & Evaluation
Vancouver Coastal Health Research Institute
Vancouver, BC**

**Craig Mitton, PhD
Senior Scientist,
Centre for Clinical Epidemiology & Evaluation
Vancouver Coastal Health Research Institute
and
Professor,
School of Population and Public Health, UBC
Vancouver BC**

**Stirling Bryan, PhD
Director,
Centre for Clinical Epidemiology & Evaluation
Vancouver Coastal Health Research Institute
And
Professor,
School of Population and Public Health, UBC
Vancouver BC**

Abstract:

Introduction: Although seemingly disparate in nature, healthcare and local governments share a commitment to serving the public - as citizens and as patients - by ensuring their health and long-term wellbeing. Beyond this mutual interest, both areas face growing scarcity of resources while demands for services continue to rise. As a result, leaders in both disciplines must face difficult decisions related to setting priorities and allocating resources.

Method: From an established position within healthcare including decades of understanding and application of health economics, a team of Canadian Health Economists and Health Services researchers launched an exploratory literature review of priority setting and resource allocation (PSRA) in local government. Searches of six databases and multiple grey literature resources were conducted – 565 papers were identified, 121 papers were left for full review, and 38 were used to inform the research topic.

Results: Budgeting theory and practice in local government were identified as drivers for PSRA. Budgeting theories included: Incrementalism and Rationalism, and budgeting practice included: Line-item, Program, Performance, Outcome, Participatory, and Priority Based Budgeting. Each theory and practice is outlined in the article as well as key comparisons to current practice in healthcare. Ultimately, the intention is to create stronger links between healthcare and local government by highlighting common challenges and approached to this critical area of study and practice.

Introduction

Studies of innovation have revealed that connecting people and ideas from disparate fields can allow for translation of best practices and creation of novel approaches (1). Healthcare is certainly no exception with significant improvements to practice delivered by applying advances from other industries including aerospace and manufacturing (2)(3). In this spirit of learning and cross application, the authors of this paper have explored efforts in local government to set priorities and allocate resources. This paper is intended to present approaches and theory from local government, compare it to healthcare, and open the door for lessons that may clarify thinking or indeed may shift practice. Ultimately, the intention is to create stronger links between healthcare and local government in this critical area of study and practice.

Background

Both local governments and healthcare organizations are committed to serving members of the public, as citizens and as patients, by ensuring their health and long-term wellbeing. Beyond this mutual interest in - and proximity to - the public, local governments and healthcare organizations in developed countries share many similarities when it comes to their fiscal environment. In healthcare organizations, growth in revenue has decreased while costs and demand for care continues to increase (4)(5)(6)(7). In local government, a shifting and shrinking tax base, deferred maintenance, new regulations from senior government, and future infrastructure projects all contribute to an environment with significant financial pressures as well (8)(9)(10).

Facing these challenges requires very difficult decisions to be made by organizational leaders and managers. For example, should a regional health organization place additional resources into implementing an electronic medical record system or hiring support staff for an emergency department? Should more funding be allocated to research in rare diseases such as multiple sclerosis or be used for diabetes prevention programs? (11). In local government, the multitude of responsibilities including: public works, parks and rec, police, and fire also require distribution of resources across services (12). Times of surplus call for additional resources to be allocated, and times of deficit call for resources to be withdrawn. In either case, there will invariably be disagreement among citizens, interest groups, and city officials about where to best spend or remove resources (13)(14)(15).

To facilitate this decision making in healthcare, significant efforts have been made in health economics to describe markets, evaluate interventions, and offer recommendations to health systems (16). Entire institutions have been created to assist with these challenges at macro levels including the Canadian Agency for Drugs and Technologies in Health (CADTH) in Canada, and the National Institute for Health and Care Excellence (NICE) in the UK (17)(18). At the individual healthcare organization level, approaches from ethics and economics have also been developed to assist with priority setting and

resource allocation including ‘Accountability for Reasonableness’ and ‘Program Budgeting and Marginal Analysis’ (19)(20).

Using the results of a preliminary literature review of priority setting and resource allocation in local government, the goal of this paper is to create linkages between these efforts in healthcare and local government to address common challenges related to resource scarcity and growing demand.

Methods

In order to explore the resource allocation approaches used by local government, a review of the published and grey literature was undertaken. Databases including: Medline, Embase, Web of Science, ABI/Inform, Business Source Complete, and Emerald were searched with key words including: municipal governments, local government, priority setting process, resource allocation process, multi-criterion decision analysis, and decision making criteria. At first, these searches yielded very few papers relevant to the research question; however, the discovery of one paper in particular, “The Anatomy of a Priority Based Budgeting Process”, elucidated the fact that the budgetary process is the primary means by which local governments set priorities and allocate resources (21).

With this newfound understanding, investigators resumed the searches of the same databases and grey literature using terms including: municipal governments, local government, budgeting, municipal finance, budget theory, and budget process. This iterative search pattern is true to the exploratory nature of the research, and led to the discovery of several hundred papers relevant to the study focus. In total, 565 papers from the published and grey literature search were identified. Titles and abstracts of published articles were reviewed for relevance to the research questions leaving 121 papers for full review. After full text review, 38 were used to inform the study question. Exclusion criteria were set in place to focus the review on resource allocation and budgeting practices in North American local government. While many approaches to budgeting exist, the results present the most common models identified in the literature reviewed.

Budgeting in Local Government

In the local governments of developed countries, the dominant resource allocation exercise is budgeting and the budget itself is one of the best articulations of a society’s priorities (22).

“Government budgeting is the process undertaken to determine and prioritize the use of resources to provide services, programs, and resources to the governmental entity’s constituency” (23)

In its most simple form as an accounting document, budgeting is simply an exercise of revenue forecasting and expenditure control to ensure that a municipality lives within its means (24). Principles of sound budgeting include accountability, planning and evaluation, realistic forecasting, appropriate time horizons, and central vision and direction. (24). In the past century, two theories of budgeting have dominated: incrementalism and rationalism (22).

Incrementalism - incrementalism is defined by budgetary outputs that deviate slightly (5% – 10%) from previous budget years (22)(25)(26). Contexts that promote incrementalism include periods of normalcy and stability where drastic change is not required (27). Historically, the ‘era of incrementalism’ in the mid-twentieth century was characterized by steady economic growth and public support for government expansion (22). Advantages of this approach include simplicity and stability. Both are useful when decision makers must serve multiple interest groups, and when time and resources are lacking to properly evaluate policy alternatives (27)(26). Incremental processes can be perceived as ‘fair’ since they are generally applied across all departments even within an organization (25). However, incrementalism provides no mechanism for assessing the benefits of existing expenditures and no rationale for encouraging efficient allocation of resources (24). In the interest of maintaining stability and controlling the budget, incrementalism often creates a cumbersome financial management system characterized by paperwork, duplication, complexity, and inflexibility (24).

Rationalism - Founded in Jeremy Bentham’s utilitarian science of human behaviours, rationalism calls for decision makers to define goals, analyze alternatives, and make decisions based on the greatest good for the greatest number of people (22)(28). Although the rational model is seemingly straightforward, it makes several important assumptions that may not translate to the empirical reality of government budgeting. In a purely rational model, assumptions include: ‘perfect information’ being available to decision makers, the ability to make social utility comparisons between alternative proposals, and the cognitive adequacy of decision makers to be able to use information under the absence of time constraints (14)(29)(30).

Figure 1: Budget Theory – Incrementalism and Rationalism

	Incrementalism	Rationalism
Time	Mid-twentieth century	Late twentieth century
Basis	Based on allocations in previous years	Based on comparisons of utility
Focus	Promotes stability, and is perceived as more ‘fair’	Attempts to maximize benefit
Challenges	Can create cumbersome financial systems	Can present challenges in implementation

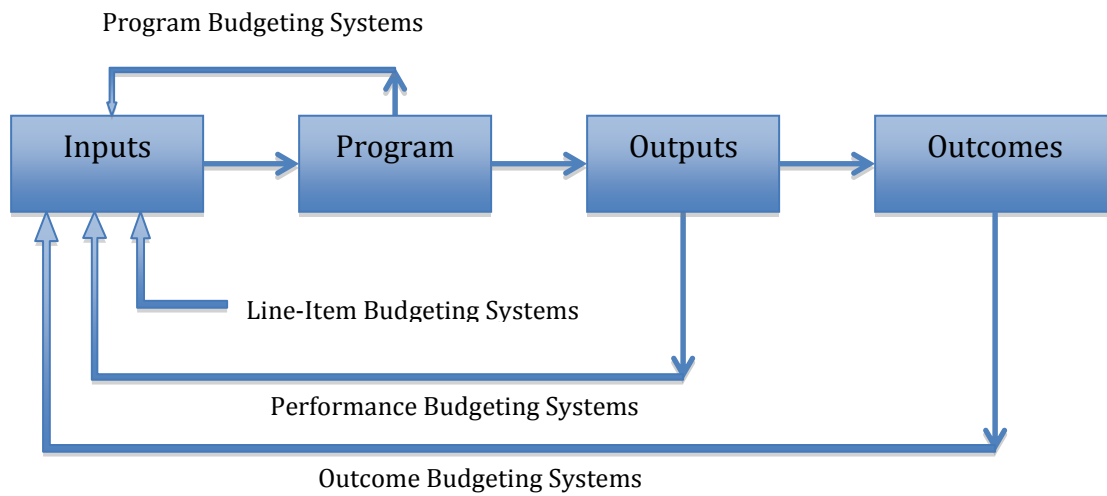
Source: Incremental Budgeting in Local Authorities (25)

The next section will explore some of the most common budgeting approaches following both incremental and rational theories including: Line item budgeting, Program Budgeting, Performance Budgeting, Participatory Budgeting, and Outcome Budgeting. A relatively new model from the United States called Priority Based Budgeting - which consolidates many of the concepts from the other types of budgeting - will also be presented.

Approaches to budgeting

Differences between these budget systems lie in their purpose, foci, and target audience. The following figures, adapted from Martin and Kettner’s 1996 “expanded systems model” illustrates these distinctions (31).

Figure 2: Comparison of Budgeting Approaches



Adapted from: Budget Theory in the Public Sector (22).

Figure 3: Table of Budgeting Approaches

Budgeting Approach	Budget Theory	Purpose	Focus	Target Audience
Line-item	Incrementalism	Expenditure control	Item inputs	Internal
Program	Incrementalism or Rationalism	Planning	Service inputs	Internal/External
Performance	Rationalism	Management	Inputs, Processes, Outputs	Internal/External
Outcome	Rationalism	Transparency, Communication	Inputs, Processes, Outputs, Outcomes	Internal/External
Participatory	Rationalism	Public Involvement	Public Values	Internal/External
Priority Based Budgeting	Rationalism	Allocation based on Priorities	Priorities	Internal/External

Adapted from: "Budget Theory in the Public Sector" (22).

Line Item Budgeting

In line-item budgeting, expenditure items are divided into individual departments with a summary of anticipated revenues. Performance measures of any kind are absent from this approach, and no information can be discerned relating to the organization's programs or activities. As a result, the budget's strategic utility is nil since linking objectives and outcomes to expenditure is virtually impossible, and attention is directed at the size of expenditure rather than alignment and value directed towards objectives (22)(21). While line item budgeting itself is simply a format used to present information, this absence of data and linkage lends itself much more towards incremental resource allocation. Indeed, the goal of a line item budget is often to control budget spending, and is favoured by some decision makers over more complex and resource intensive approaches to budgeting (32). In times of fiscal scarcity, a line-item budget would facilitate 'across the board cuts' or elimination of vulnerable services ie. those which have been instituted recently, serve a small constituency, or have limited public support (33)(34).

Program Budgeting

The primary difference between line item budgeting and program budgeting is the unit of measurement. Rather than presenting expenditures as line items, program budgeting presents expenditures as services or 'programs'. For example, instead of budgeting by salaries one would budget by activities such as code enforcement or housing inspection. This new format allows decision makers to focus debate on program alternatives and program spending – rather than individual line items. In doing so, program budgeting becomes a useful tool for strategic planning and resource allocation (28). Since program budgeting itself is simply a format used to present information (like line item budgeting), it is neither strictly incremental nor rational in nature. However, organizations implementing program budgeting will generally implement it in tandem with one of the following rational approaches while organizations using line item budgeting will tend to favour more incremental approaches (22).

Performance Budgeting

As its name suggests, Performance Budgeting broadens the scope of the budget process to include both expenditures *and* performance. The primary assumption underpinning this rational approach is that a focus on elements of performance – ie. the output measures of processes including efficiency and effectiveness - will improve the quality of allocation decisions (35)(36). The following figure presents the main steps of a performance based budgeting process (36).

Figure 4: Four Steps of Performance Budgeting

1. Determine the expected results of certain activities or programs
2. Create appropriate performance measures for services
3. Collect data throughout year
4. Use performance measurement to make resource re-allocation decisions

Source: “Performance measurement in municipalities” (36).

In order to enact performance budgeting, an organization must first have adequate performance measurement and management systems in place. Performance measurement can be defined as “the regular collection and reporting of information about the efficiency, quality, and effectiveness of government programs” in order to quantify performance (23)(37).

Despite the rational construct underlying performance budgeting and its potential benefits, multiple challenges have been identified with this approach in practice. While using multiple measures that cover the inputs, processes, and outputs of a program is recommended, choosing the appropriate measures can be quite challenging for several reasons. Firstly, “different aspects of performance are relevant to different stakeholders” (38). Lebas and Euske (2002) argued that performance is a relative, socially constructed concept, subject to different interpretations by different individuals (39). Secondly, collecting data to support performance measurements requires resources (40). Conducting the interviews, surveys, direct observation, and review of records all require time and money – time and money that may need to be taken from service delivery to fund evaluation. A final challenge also pertains to timeliness of information provided. By definition, a program must yield results in order for its performance to be measured. Since budget preparations begin at least one year prior to the new fiscal year, performance measures cannot be available for the upcoming fiscal year’s budget deliberations.

Ironically, the greatest challenge with implementing performance budgeting lies in its rational foundation. Without a systematic methodology for interpreting the results of performance measurement, a decision maker cannot know whether a low-performing program should be penalized by cutting its budget because it performed poorly or should be given additional resources because its low performance was due to insufficient funding (40). Often, this uncertainty is addressed politically whereby elected officials interpret results and make decisions according to their own interests ie. if a program they support receives a low performance score it requires additional resources, if a program they do not support receives a low score it should be cut (41). These

budget impacts combined with the aforementioned measurement challenges can promote gaming of measures or falsification of data to make a program appear to be high-performing. (36).

Despite the rational theoretical foundation of performance budgeting, practical challenges exist in 'real world' implementation (36). As a result, performance budgeting cannot serve as the sole input to local government resource allocation decisions (42).

Budgeting for Outcomes

In the scope of budget model development, budgeting for outcomes is not necessarily a new concept, but rather represents an evolutionary step forward for rationalism (22). To answer the critical allocation question: should program A receive resources over program B? – budgeting for outcomes suggests that the outcomes achieved by each program should determine their funding levels (22). Simply put, budgeting for outcomes is “a budget system that focuses on the outcomes of the funded activity” (43). In this way, the approach is similar to performance budgeting with some slight differences including: a focus on outcomes rather than outputs, an explicit purpose to improve transparency and communication, and a special consideration of the external public audience (22).

Overall, organizations that are committed to outcome budgeting should see their performance measures evolve from inputs, process, and outputs to outcomes. Ideally this focus and measurement of outcomes should allow for resources to be invested in programs that offer more to the community. Since outcomes can generally be more easily understood internally and externally, this approach should also increase accountability and transparency (37)(44)(45)(46)

However, all of the same challenges that exist for performance budgeting also exist – and are perhaps more pronounced - for budgeting for outcomes including: choosing appropriate outcomes, the additional investment required to measure those outcomes, and deciding whether to invest or disinvest in a program which has 'lower' outcomes (33). The outcomes of some programs may also be much more difficult to measure than others.

Participatory Budgeting

As previously discussed, efforts to introduce rationalism into decision-making can be confronted by internal and external political forces. Often, public opinion can heavily sway the minds of elected officials. A budgetary approach that is too mechanical in

nature, and fails to consider engagement of the public, will certainly encounter difficulties in implementation (23). Participatory budgeting places members of the public in the role of decision-makers enabling them to allocate resources across a set of alternatives (47)(48)(49).

Despite a singular term, there are many variants of participatory budgeting (50). On one end of the spectrum, an exercise may simply include an informative event or online poll. On the other end, it could entail an intensive participatory process including: discussion, focus groups, voting, and allocation of resources across a set of services (50). Benefits associated with this approach to budgeting include: a greater sense of ownership and understanding among participants, increased participation and pride in the traditional political process, a more representative allocation of resources as designed by the public, and greater understanding of public priorities among local government (49)(51)(52). Participatory budgeting can also increase scrutiny of other resource allocation decisions by the public, nurturing higher levels of accountability and transparency and reducing opportunities for corruption and backroom deals (53).

The primary argument against participatory budgeting revolves around the ‘return on investment’ for such an exercise. Participatory budgeting often requires significant staff time, technical assistance, information gathering, and a total value that may be difficult to measure accurately (54)(55)(56). An imbalanced focus on public opinion without consideration for other factors including performance may also limit the effectiveness or equity of resource allocation (57)(58).

Priority Based Budgeting

This final approach offers a combination of the aforementioned models, and was developed by local government for local government. Priority Based Budgeting is a budgetary framework whereby resources are allocated based on “how effectively a program or service achieves the greatest value for a community” (21). Developed in 2010, it has been recognized by the International City/County Management Association (ICMA) as a leading financial practice for local government (59). In 2010, over 30 communities incorporated PBB into their budget process, and by June, 2014 over 70 communities in both the US and Canada had successfully adopted it (23).

In order to maximize value for the community, PBB necessitates a collaborative effort by local elected officials, government staff and citizens to develop a set of criteria used to rank the value of individual government programs. Each department within the local government must then create a comprehensive list of all the programs it offers with associated costs. Programs are ranked using the set of criteria. The final ranking list, combined with performance measurement data, is then used to make resource allocation decisions. In this way, Priority Based Budgeting offers a practical framework to

implement program budgeting, performance budgeting, participatory budgeting, and outcomes-based budgeting (23)(60)(61).

Like performance or outcomes budgeting, the primary challenge with this approach is the time and resources required to begin and sustain it. Public consultation, categorization and costing of programs, and ranking exercises all require significant commitment to be completed properly. Ranking of programs could also be controversial in some cases especially if the organization is in a fiscal environment where disinvestments must be made.

Discussion

This discussion will use aforementioned approaches to budgeting to strengthen the link between priority setting and resource allocation in healthcare and local government. The following topics will be expanded upon to achieve this purpose: similarities between local government and healthcare PSRA processes, common challenges, and areas for further exploration.

Similarities in Process

For almost 30 years the primary method of funding Canadian healthcare has been the ‘global budget system’ (62). As lump sums that cover expenses one year at a time, global budgets are often based on historical spending and are provided irrespective of the number or mix of patients treated (63). Similar to line item budgeting, global budgets’ primary goal is control over expenditure – other benefits include: administrative simplicity, low operational cost, and predictability for both hospitals and governments (64). Theoretically, this structure should allow for governments to cap funds and shift the risk of care to providers while increasing their ability to be flexible in responding to local pressures (65)(66). However, this method of funding does not connect volume or quality of care to reimbursement rates, and can create disincentives to improve efficiency (67)(68)(69).

Like our local government counterparts, healthcare leaders and decision makers have recognized the disadvantages of this incremental approach, and have been experimenting with more evidenced-based performance driven processes for explicitly allocating resources. A well known example from the funding perspective is ‘Activity Based Funding’ (ABF) which provides remuneration based on patient case mix, volume, and expected costs of treatment (63). Like program budgeting in local government, ABF requires the calculation of cost across pathways of care (e.g. hip and knee replacement)

rather for individual line items (e.g. nurse salary, cost of equipment, overhead, cost of surgeon, etc.). The intention is to drive greater accountability, eliminate inefficiencies, and improve care.

Another example of a pragmatic rational approach to resource allocation in healthcare is ‘program budgeting and marginal analysis’ (PBMA). PBMA is based on the economic principles of opportunity cost and the margin, and facilitates transparent resource allocation through program budgeting and the development of criteria to evaluate marginal investment and disinvestment proposals (20). PBMA in healthcare can contain certain elements of performance and outcomes based budgeting from local government, and has a very similar structure to priority based budgeting since both rely on multi-criterion decision analysis (MCDA) (20).

Common challenges

Although situated in different contexts, the approaches to resource allocation developed by health and local government share many of the same challenges to implementation. Like performance or outcome budgeting in local government, unintended consequences of activity based funding (ABF) can include: increased efforts in areas where outcomes are easier to measure and are rewarded (not necessarily related to client needs), gaming of the measurement system, time lag in provision of data to make decisions, and concentration of services in urban centers to capitalize on economies of scale (63)(70)(71)(72). Common cultural barriers towards implementing PBMA that are also felt in local government attempts to apply more rational processes include: lack of trust among stakeholders in the process, vertical budget siloes or ‘sacred cows’ that inhibit re-allocation of resources across departments, and political interference (73).

A final barrier that affects all approaches in both healthcare and local government is lack of resources ie. time, money, knowledge/capacity to implement more formal/explicit/rational processes. Since more robust infrastructure is often required to be able to accurately measure and provide the data necessary to inform more rational processes, and more highly trained personnel are needed to interpret and act on the data, more rational processes may only be possible for larger institutions to implement (40)(46)(63).

Future Study

To move the practice of priority setting and resource allocation forward, the authors would like to highlight several areas where experience from local government could offer new insight to healthcare.

- 1) Participatory Budgeting: While there has been ample discussion in healthcare in regards to incorporating the patient voice into decisions about their health, direct patient involvement in resource allocation decisions is less common. Examples from local government including the ‘Participatory Budgeting Project’ may highlight some possibilities of public immersion in resource allocation decisions (74).

- 2) Program Budgeting: the comprehensive program budgets that have been created through Priority Based Budgeting processes have allowed decision makers to strategically re-allocate resources from low priority to high priority services (75). At this point, healthcare could benefit from the experience in local government by further developing their accounting structures to better understand the costs of the activities they are performing. Healthcare activity based funding and costing efforts could also be drawn upon to further this area.

- 3) Performance Budgeting: like local government, healthcare is faced with the challenge of measurement; typically it relies upon counting outputs of processes when outcome measures would be much more appropriate. While outcome measurement can be more expensive and require greater infrastructure to carry out, the data it provides is much more valuable to decision making.

Conclusion

In conclusion, a novel approach has been taken in this paper to describe and link practice in these disparate areas in order to develop a foundation for further investigation and improvements to practice. Significant efforts have been taken to develop budgeting processes to serve priority setting and resource allocation in Local Government. The latest development has been Priority Based Budgeting. Given the similarities between local government and healthcare, decision makers and health care leaders could look to local government experience to further PSRA in their own area.

About the Authors:

William Hall, MSc, PhD Candidate
Centre for Clinical Epidemiology & Evaluation
Vancouver Coastal Health Research Institute
7th floor, 828 W 10 Avenue
Vancouver, BC V5Z 1M9
Ph: 604-999-5256
Email: will.hall50@gmail.com
NOTE: William Hall is the corresponding author

Neale Smith, MA, MEdes
Centre for Clinical Epidemiology & Evaluation
Vancouver Coastal Health Research Institute
Vancouver, BC

Craig Mitton, PhD
Senior Scientist,
Centre for Clinical Epidemiology & Evaluation
Vancouver Coastal Health Research Institute
and
Professor,
School of Population and Public Health, UBC
Vancouver BC

Stirling Bryan, PhD
Director,
Centre for Clinical Epidemiology & Evaluation
Vancouver Coastal Health Research Institute
And
Professor,
School of Population and Public Health, UBC
Vancouver BC

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