

CONFERENCE SUMMARY

**PRIORITY SETTING
IN HEALTH CARE:
FROM RESEARCH
TO PRACTICE**

Prepared by:

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and Cam Donaldson PhD*



UNIVERSITY OF
CALGARY
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MEDICINE

The Centre for Health and Policy Studies



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Conference Summary

**Priority Setting in Health Care:
From Research to Practice**

*Prepared by Craig Mitton PhD
and Cam Donaldson PhD*

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Preface

Health regions face difficult decision points in the complex and changing environment of health care provision in Alberta. This booklet is part of a series that provides tools for assisting RHA's in making these decisions.

The content presented in this booklet is an overview of a workshop on priority setting held in Calgary in September 2001. The tool described here, program budgeting and marginal analysis, has its origin in the field of economics. This analytical tool has been established and further developed by the Centre for Health and Policy Studies at University of Calgary. Any specific enquiries can be directed to them.

The field of health technology assessment provides conceptual frameworks for making decisions on health care expenditures so that the many factors that influence such decisions can be compared and thus a greater level of consistency and certainty in decision-making can be achieved.

Other publications in this series includes:

HTA Initiative #1: Framework for Regional Health Authorities to Make Optimal Use of Health Technology Assessment

HTA Initiative #2: Making Managerial Health Care Decisions in Complex, High Velocity Environments

HTA Initiative #3: Conference Proceedings for the First Annual HTA Conference, Evidence-Based Decision Making: How to Keep Score, University of Calgary

HTA Initiative #4: AHFMR Screening Procedure for Use when Considering the Implementation of Health Technology

Don Juzwishin

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Introduction

“This framework... provides a forum in which decision makers can weigh evidence from numerous sources with local data and knowledge to determine priority areas for expanding a given program or service, and as well, to identify where the resources might come from for this expansion.”

In the health system, it is generally accepted that resources are scarce. That is, there are not enough resources available to meet all the claims on those resources. In Alberta, regional health authorities, or health regions, are responsible for ‘assessing, on an ongoing basis, the health needs of the region’ and ‘determining priorities in providing health services in the region and allocating resources accordingly’ (Province of Alberta 1995). This legislated mandate serves as an accountability framework within which health regions must operate, both in practice and through reporting mechanisms such as three year business plans. The dilemma is that, due to scarcity, difficult choices amongst the competing claims on those limited resources must be made (Auld et al. 2001). As economics is about the study of choice, it is plausible that an economic approach to aiding health system managers in making difficult choices about what programs to fund and what not to fund would be useful. Further, an approach to priority setting should likely be as evidence-based as possible, yet, in the end, enable local managerial and clinical leaders to make the ‘right’ decision for a given situation.

One framework for priority setting which has been widely used internationally in health care over the last twenty-five years is program budgeting and marginal analysis (PBMA). This framework, described in more detail below, provides a forum in which decision makers can weigh evidence from numerous sources with local data and knowledge to determine priority areas for expanding a given program or service, and as well, to identify where the resources might come from for this expansion. Such an approach could also be used in a similar manner to assess new technologies, whereby a given technology could be comparatively assessed against competing claims on the limited resources available.

Importantly, building on an economic approach to priority setting, through the use of the PBMA framework, managers and clinicians are challenged to think outside of the usual health services delivery box. That is, instead of continuing to fund new programs or technologies from additional (i.e., incremental) resources, the economic way of thinking would suggest that prior to looking to external sources for increasing revenue, greater emphasis is placed on examining the current mix of services, to identify, in a resource neutral manner, what changes can be made to improve the benefit to the population overall.

Over the last two years, the authors of this report have worked on a research project funded by the Canadian Health Services Research Foundation and

the Alberta Heritage Foundation for Medical Research to examine issues around the process of setting priorities in health regions. At the end of this project, a priority setting workshop was held at the University of Calgary on Sept. 27, 2001, entitled, 'Priority Setting in Health Care: From Research to Practice'. The purpose of the workshop was to stimulate participants in thinking around issues of priority setting, and ultimately to provide managers and clinicians with specific insight into how priority setting at a local (or regional) level can be carried out.

As part of this workshop, participants were given a detailed priority setting methodology, based on the PBMA framework mentioned above, and were asked to provide specific comments on the outlined approach. The importance of obtaining feedback on the approach is revealed in the fact that although PBMA has a lengthy history in health care priority setting, it has actually undergone limited evaluation. Only recently have attempts been made, both in Australia and through the two-year Alberta-based research project alluded to above, to formally evaluate the use of PBMA (Peacock 1998, Haas et al. 2001, Mitton and Donaldson 2001a). Importantly, even this recent evaluation has focused on a limited number of health system personnel who have actually used PBMA. Through our priority setting workshop, an opportunity was provided to elicit feedback on PBMA from a much broader set of stakeholders, many of whom had not previously used an explicit approach to priority setting like PBMA.

In the next section, further detail on the PBMA framework itself is provided, as well as information on some of the evaluatory work conducted to date in Australia and Canada. Following this, the methods for obtaining feedback from participants at the priority setting workshop in Calgary are outlined, with results highlighted in Section four. In the final section of the report, a discussion ensues, in which the findings from the workshop are tied to previous work from Alberta and elsewhere, and areas for further study on this important topic are outlined.

Details on the Framework

DEFINITIONS

Program budgeting describes the pattern of spending within health regions, either across regional portfolios (e.g., seniors health, child and women's health) or within specific service groupings (e.g., postpartum care) (Miller et al. 1997).

Marginal analysis can be used to suggest ways of improving both the efficiency and equity of programs through examining potential re-design of a given set of services (Donaldson et al. 1995).

DESCRIPTION OF PBMA

The PBMA framework is generally used by health region managers, often in conjunction with health economists, to determine the optimal mix of a particular set of services for a given amount of resources (Mitton et al. 2000). Program budgeting was originally conceived as a tool for tabulating expenditure of different programs within an organization. As such, marginal analysis was required as an evaluative technique, to aid decision-makers in considering the shifting of resources to potentially improve benefit to the defined population. Although the approach has been applied in various formats, PBMA can basically be described by asking five questions pertaining to the use of resources:

1. What resources are available in total?
2. In what ways are these resources currently spent?
3. What are the main candidates for more resources and what would be their effectiveness?
4. Are there any areas of care which could be provided to the same level of effectiveness but with less resources, so releasing those resources to fund candidates from (3)? (i.e., addressing technical efficiency)
5. Are there areas of care which, despite being effective, should receive less resources because a proposal from (3) is more effective (per dollar spent)? (i.e., addressing allocative efficiency)

Program budgeting provides a means for responding to the first two questions, through describing the pattern of spending within health regions, either across regional portfolios (e.g., seniors health, child and women's health) or within specific service groupings (e.g., postpartum care) (Miller et al. 1997). The second stage, marginal analysis, can be used to suggest ways of improving both the efficiency and equity of programs through examining potential re-design of a given set of services (Donaldson et al. 1995). Generally, an expert panel is formed at this stage to develop recommendations for both potential service delivery expansion and, in order to fund items for expansion, areas for potential resource release. Based on the underlying economic principle of opportunity cost (i.e., the benefit lost by not investing resources in the next best alternative option), use of marginal analysis can aid decision-makers in identifying potential changes in the mix of services provided which may lead to maximizing the health benefit of the

population for a given funding envelope. In the end, with consideration of opportunity costs, through marginal analysis, managers and clinicians can suggest resource re-allocations from one patient group to another, if it is held that benefit to the population as a whole would improve.

An application of PBMA usually first requires that the specific program area, and the objectives of that area, are defined. Programs can be defined in different ways (i.e. disease-specific, client group specific, etc.), with the ultimate aim being to describe the program in a way that is suitable for the given health region. Following this, a program budget can be developed to map the relevant activity and cost data, informed through health region information systems or prospective data collection if necessary. An expert panel, representing key stakeholders including administrators, clinicians, and possibly the public, can then be struck, with the mandate to identify areas for service expansion and resource release, in order to assess, at the margin, the impact of potential shifts in resource use on the overall health of the population (Cohen 1995). While the specific domain of the expert panel will vary depending on the question being asked and scope of the project undertaken, it is important to define this at the outset. In the next step, scenarios which involve increases and reductions in spending can be presented to the panel, or indeed derived by the panel, which can then make priority lists of services that should be expanded or reduced. The key at this point is in focusing on marginal benefits, thus alleviating the need to assess total needs and overall benefits.

The impact of changes in these options are then evaluated, and can be supplemented with evidence on effectiveness and cost effectiveness from the literature (Donaldson and Farrar 1993, Cohen 1995). These results can also be used in conjunction with other means, such as needs assessments, health region annual reports and business plans, other local and national policy documents, consumer or public views, and other health professional views, to determine health services priorities (Craig et al. 1995, Cohen 1995, Ruta et al. 1996). Finally, the given health region, or relevant key decision-maker, has to decide whether resource shifts will actually follow the recommendations of the expert panel, and specifically address any trade-off with equity that may result with the potential increases in efficiency (Mooney et al. 1992). In principle, the PBMA framework can be applied at either a micro level (i.e., within programs of care) or at a macro level (e.g., across portfolios in a health region), although in practice, most of the exercises to date have had a more micro level focus (Mitton and Donaldson 2001a).

LACK OF EVALUATION

Critically, though, PBMA has to date undergone limited evaluation of both one-off studies (Peacock 1998, Haas et al. 2001) and formal international assessment (Mitton and Donaldson 2001a). This recent evaluatory work has been useful in identifying a number of key themes, both with respect to how ‘success’ of priority setting activity of this nature should be defined as well as developing specific methodological and process-oriented guidelines. More specifically, while the traditional objective of a priority setting exercise has been to ‘minimize opportunity costs and maximize benefit’ (Donaldson and Farrar 1993), it has recently been argued that more emphasis should be placed on such activities as simply evaluating a historical slate of services, or in identifying options for re-design of a program or service area (Mitton et al. 2001).

Further, through work drawing on multiple case studies, specific lessons about the application of PBMA can be brought together. This would include recommendations such as using one-on-one meetings with expert panel participants in identifying areas for resource release, having a research assistant trained in critical appraisal of the literature bring options for service delivery re-design to the expert panel at the outset of the meetings, and having the expert panel participants identify the criteria (e.g., effectiveness, efficiency, equity) on which decisions will be made, early on in the panel deliberation process. As well, early work has been done in attempting to set an explicit priority setting process more directly into the organizational context in which it is being applied (Mitton and Donaldson 2001b). As part of this, barriers and facilitators to both the uptake of a priority setting framework and the ultimate follow-through on resulting recommendations from the priority setting activity can be identified. These would include the need for senior level buy-in and support for the activity, a culture to support genuine re-design of services rather than simply adding on new services and thereby increasing the total pot of resources required, and adequate resources earmarked for carrying out the recommended changes, including time freed-up for managers to spend to ensure the changes are put into effect. It is expected that these practical and organizational suggestions should help people who have not previously used an approach like PBMA move through a priority setting exercise with greater ease.

In summary, then, PBMA has been used extensively in both Canada and elsewhere to aid managers and clinicians in setting priorities, from a resource neutral perspective. However, it has only been recently that it has undergone formal evaluation. Building on this previous work in Australia and Canada, through information obtained at the Calgary priority setting workshop, further insight into how, and indeed whether, the PBMA framework can and should be used, was obtained. It is to this that the report now turns.

Methods for Feedback

During the Sept. 27 priority setting workshop, three keynote presentations were given. The first of these discussed the ‘state of the art’ of priority setting internationally, while the second and third provided the audience with a description of the basic approach of PBMA and specific lessons learned on moving forward with PBMA in a given health region. During the afternoon, workshop participants were broken up into nine groups of approximately eight people each to discuss a priority setting methodology based on the PBMA framework, as depicted in Appendix A. In this way, the participants had both a more general overview from the morning presentations as well as a fairly detailed, step-by-step description of how a specific priority setting exercise could be undertaken. Each small group was asked, upon reading the description outlined in Appendix A, to respond as a group to a number of questions, as presented in Table 1.

TABLE 1: QUESTIONS FOR SMALL GROUP SESSION

<p><i>Acceptability and Adaptability</i></p> <ul style="list-style-type: none"> • Is this approach as outlined acceptable? • How might the framework itself have to be adapted to better fit in health regions?
<p><i>Implications and Action</i></p> <ul style="list-style-type: none"> • What implications do you foresee arising from the framework? • Are these implications acceptable and are you prepared to act accordingly?
<p><i>Barriers and Facilitators</i></p> <ul style="list-style-type: none"> • What are some barriers and facilitators to undertaking the approach as outlined? • What are some barriers and facilitators to implementing resulting recommendations? • How might these issues be resolved?
<p><i>Worthwhileness and Releasing Time</i></p> <ul style="list-style-type: none"> • Is it worthwhile for managers and clinicians to undertake this type of activity? • What do you think should be given up to free time for this activity?

In part, the intention was to engage the workshop participants in a more interactive session, with the hope that each person would have a better ‘take-home’ message from the day’s activities. In addition, a decision was made a priori to distribute the group responses, both as a means of feedback for participants, and as well, as alluded to above, to provide further insight into the usefulness of the priority setting approach as outlined. The responses

from each group were analyzed with content analysis, whereby major themes (e.g., 'data') and sub-themes (e.g., 'data accessibility', 'data validity') were identified by hand, which arose entirely from the post-hoc analysis. Key criteria used in coding and subsequent reporting of themes included the number of groups making the specific comment, and the relevance of the response to the particular question being asked. As such, important issues raised by only one group may be included, as would responses raised by several groups which may not have initially seemed pertinent.

Results

ACCEPTABILITY AND ADAPTABILITY

In general, the workshop participants held that the priority setting approach as outlined would be particularly useful and relevant at a program level, but that it would be more difficult to apply at a macro level across programs in a health region. The reasons given for this were the organizational buy-in that would be required for broader implementation of the approach and the resources required to educate managers and clinicians in many different program areas, as well as a lack of interactive communication which can be found in health regions between managers at a micro (i.e., program) level and those in senior management. It was also suggested that if the approach was to be applied at a macro level, broad direction and organizational coordination would be required to move the process forward. One group also indicated that, due to inter-regional delivery in some service areas, an overarching provincial perspective may be needed to incorporate such an explicit approach into the decision making process.

Several groups also reported that the data required to 'populate' the program budget and ultimately inform the marginal analysis process is simply not available or not reliable. As well, for allocation at a broader macro level, the comparative data to inform the shifting of resources out of one service area and into another does not exist. Lastly, with respect to data, as budgets are generally aligned by departments, developing a program budget based on programs can be quite challenging.

Another theme which arose with respect to the acceptability and adaptability of the framework was that using PBMA can be quite labor intensive. As a result, one group suggested that the approach is better suited to larger regions where infrastructure and personnel are more likely to be available to support this type of activity. Several groups stated that decision making often has to occur in a very shortened timeline, and thus indicated that a 'quick and dirty' version of PBMA may be more likely to be taken up by decision makers.

Interestingly, numerous groups held that the value of a PBMA-like approach would be in tying the specific priority setting activity to the business planning cycle. In this way, it was felt that the approach itself would gain credibility by being incorporated into ongoing strategic planning. Of course, for this to happen, the groups felt that the pragmatic nature of PBMA would have to be tapped into, whereby considerations beyond just the costs and benefits of service provision would have to be weighed. As well, it was held that an external facilitator would benefit the priority setting process, and that the ‘human element’ of potential job loss must be explicitly considered before final decisions are made.

IMPLICATIONS AND ACTION

The primary implication identified in using the approach as outlined was that, in the end, something may have to be given up in order to get something else. This implication comes hand in hand with the challenge of identifying areas for releasing resources to fund expansion areas, particularly when the releases may be in the form staff. Another related challenge, raised by two groups, was the difficulty in identifying downstream effects or the impact on other programs of a particular decision. The implication being, of course, that rarely in health care delivery can a decision be made in isolation; rather, the complexity of health services necessarily means that one decision will have other effects, either elsewhere or later in time.

In order to move forward and deal with these implications, numerous suggestions were provided by the groups to facilitate the implementation of the priority setting approach. These are illustrated in Table 2. Although none of the groups directly responded to the question of whether the implications were acceptable, it could be assumed in their responding with suggestions for moving forward with the priority setting approach that, to some degree, it was held that there was a need for this type of work.

TABLE 2: ACTING ON THE IMPLICATIONS

- long term regional commitment to the process with high-level champions
- tied into ongoing business planning cycle
- political and frontline staff support and buy-in
- organization has to be receptive and timing with business cycle has to be right
- organizational objectives and values must be clear at the outset
- target percent for resource release and re-allocation stated up front
- resources and knowledge required to implement and willingness to follow-through
- process must be fair and open and impact on other regions must be considered
- use of focus groups to keep size of expert panels down

BARRIERS AND FACILITATORS

As already alluded to above, the primary barriers had to do with issues around data and time. That is, workshop participants felt that data both on effectiveness of programs (especially primary care) and cost was not readily available or reliable to inform the priority setting process as outlined. Further, questions arose as to whether individuals in health regions would have the time to participate in this type of activity. Numerous additional barriers arose from the group discussions, including the difficulty in obtaining buy-in from staff, the challenges with incorporating community views, the lack of in-house priority setting expertise, the existence of budget silos and thus the structural inability to re-allocate across budgets, and the ever-growing public expectations. It was also suggested that politics can be a barrier to evidence-based decision making, that there are built-in incentives to overspend budgets, and it is challenging to make changes to clinical practice. One group stated that the approach may be ‘simply too threatening’, in that, at least with more implicit strategies to priority setting like historical allocation, it is much easier to continue to do what has always been done with few questions being asked.

A number of points around facilitating the use of a priority setting framework were already made in the previous sub-sections, particularly noting Table 2, but several further facilitators were also mentioned. These included the need for ‘climate building’ whereby the organization as a whole received education and orientation around re-allocation and the use of an explicit, evidence-based approach to priority setting. As well, it was stated that non-invested experts be a part of the process, whether they are tied to a university or external consultants. Communication and relationship building were also mentioned as key facilitators to this type of approach, as was the need for developing an organizational structure which could support this type of activity. Finally, it was held that the foundation for change has to be transparency of the process. Table 3 summarizes the key barriers and facilitators identified from the various groups.

TABLE 3: KEY BARRIERS AND FACILITATORS TO USING AN EXPLICIT PRIORITY SETTING APPROACH

Barriers	Frequency of stated barrier	Facilitators
Availability and reliability of relevant data	6/9 groups	Resources allotted to collection of data and dissemination of information
Time required to conduct exercises	4/9 groups	'Quick and dirty' exercises; free up time from other health region activities
Public expectations and political involvement	4/9 groups	Education that resources are scarce; transparency of process
Lack of buy-in from staff and physicians	3/9 groups	Inclusion of all stakeholders at early stage in priority setting exercise; 'climate building' and organization-wide education
Vertical budget silos	3/9 groups	Move towards genuine service delivery integration
Lack of priority setting expertise	1/9 groups	Use of non-invested experts; organizational structure to support priority setting activity
Entrenchment of clinical practice	1/9 groups	Evidence-based education; acceptance that clinical trade-offs must be made as cannot deliver all services

WORTHWHILENESS AND RELEASING TIME

Interestingly, every group stated that this type of priority setting activity would be worthwhile for managers and clinicians to partake in. The groups stated that it is important to learn about and evaluate programs being offered in the regions, and that the outlined approach provided an excellent opportunity to involve multiple stakeholders in the decision making process. It was again emphasized that the approach should be built in as a long term, ongoing business planning activity, and that external consultants would be useful in moving the process forward.

Thinking about the opportunity cost of being involved in this type of activity, the majority of groups stated that in order to be a part of the process, time could be freed-up by not going to other meetings. It was also stated that individuals in health regions could learn less about other things and attend fewer conferences. As well, it was felt that if longer term planning was supported, there would be less of a focus on crisis management, thereby freeing up time from daily activities. In general, the participants in the groups stated that priority setting is an important activity in health regions, and is

one that they would be willing to make a priority, through partaking in less of some other activities.

Discussion

Priority setting in health regions is a necessary activity due to the fact that resources are scarce and thus choices amongst competing claims on those limited resources must be made. PBMA is a framework that has been used widely internationally to aid managers in this process. However, the framework itself has undergone limited evaluation, save recent work in Australia and Canada. Importantly, while insight has been obtained into improving PBMA based on feedback from managers and clinicians who have used the approach in priority setting exercises, the priority setting workshop held on Sept. 27 at the University of Calgary provided the opportunity to elicit broader feedback on a specific methodology for setting priorities based on the PBMA framework. Through small group discussions, workshop participants indicated how the outlined approach could be improved, and what barriers would have to be addressed for implementation, means of resolving the stated barriers and whether such activity was worthwhile in health regions.

One way to analyze the findings presented herein is to examine what was known previously about implementing an explicit priority setting framework like PBMA and what were, in essence, new results. In the PBMA literature, it is often stated that a major limitation of the framework is that it is both time and data-intensive (Donaldson and Mooney 1991); the current findings are no different. Interestingly, those who have used the PBMA framework in Alberta have reported that data was not as much of a barrier as they had initially thought (Mitton et al. 2001). In terms of time, it can be noted that while this is an important realization, it was also reported here that workshop participants believed such activity to be worthwhile, even if it means not participating in other activities. Again from previous work in Alberta, those who have used the framework, despite the time commitment involved, generally view the activity as worthwhile, and will often recommend further use of the PBMA framework (Mitton et al. 2001).

Another finding which also has been identified previously, is the benefit of integrating the priority setting approach into the business planning cycle (Mitton and Donaldson 2001c). That is, in order for explicit priority setting activity to genuinely become a part of the planning cycle, one-off exercises are unlikely to produce the intended effect (Mitton et al. 2001). As well, a number of facilitators to the implementation of PBMA, such as high level

champions and the availability of resources to support the process, reported elsewhere (Peacock 1998, Mitton and Donaldson 2001a), were confirmed through the current findings. Another facilitator, of sorts, is the use of non-invested experts. Others have suggested the need for University based health economists to facilitate the marginal analysis expert panel sessions (Madden et al. 1995), but the findings reported here, and follow-up work done in Alberta (Mitton et al. 2001), indicate that the important factor is that the facilitator is simply external to the group attempting to make re-design decisions.

Two further important findings can also be highlighted which have not been reported previously. First, the workshop participants indicated that PBMA would have difficulty being applied at a macro level, across programs in a health region. That the vast majority of PBMA exercises to date internationally have been at a program level make this finding all the more interesting. What is not clear is whether there is something about PBMA itself which would prevent its use at a macro level, or if no explicit priority setting framework could succeed when there is a need to trade-off very diverse programs against each other. Second, the small groups from the workshop put forth a need for 'climate building' and 'relationship building' in the health regions attempting this type of priority setting activity. While it has previously been reported that education about PBMA and the underlying economic principles is required (Peacock 1998), the identified need of developing a receptive climate and explicitly fostering relationships is a novel finding.

Overall, the feedback provided from the small groups at the University of Calgary priority setting workshop was insightful and helpful in moving forward both the research agenda and, more importantly for those in health regions, the application of explicit priority setting activity. The findings presented here in some cases confirmed prior work on the evaluation of PBMA, both in Australia and Canada, and in others was able to bring new issues forward for further consideration. Ultimately, the workshop participants, which included personnel from health regions and the provincial ministry, as well as physicians and other clinical groups, held that an explicit, evidence based approach to priority setting like PBMA is a worthwhile activity to be undertaken in health regions.

With the findings provided here, further refinement of the outlined approach to priority setting can take place, with the intent being continued improvement of decision making and priority setting processes in health organizations, both in Alberta and elsewhere. More specifically, steps are currently being taken by researchers within the Centre for Health and Policy Studies at the University of Calgary, in conjunction with researchers and decision makers in health regions, to continue examining the use of explicit

priority setting approaches within health regions both within programs of care and across major regional portfolios. This includes more explicit consideration of organizational barriers and facilitators to explicit priority setting activity, with the ultimate intent of producing a training manual or 'toolkit' for managers and clinicians to use as a guide in conducting their own priority setting exercises. The information obtained through the group work from the Sept. 27 workshop, as presented here, will make a significant contribution to these further research endeavors. In the meantime, anyone interested in pursuing improvements in the practice of priority setting can contact the authors at the addresses given at the start of this report. We look forward to hearing from you!

References

- Auld C, Donaldson C, Mitton C, Shackley P. Economic Evaluation. In: Detels R, Holland W, McEwan J, Omenn G, eds. *Oxford Textbook of Public Health (4th Edition)*. Oxford: Oxford University Press, 2001.
- Cohen D. Messages from Mid Glamorgan: a multi-programme experiment with marginal analysis. *Health Policy* 1995;33:147-155.
- Craig N, Parkin D, Gerard K. Clearing the fog on the Tyne: programme budgeting in Newcastle and North Tyneside Health Authority. *Health Policy* 1995;33:107-125.
- Donaldson C, Farrar S. Needs assessment: developing an economic approach. *Health Policy* 1993;25:95-108.
- Donaldson C, Mooney G. Needs assessment, priority setting, and contracts for health care: an economic view. *British Medical Journal* 1991;303:1529-1530.
- Donaldson C, Walker A, Craig N. *Programme budgeting and marginal analysis: a handbook for applying economics in health care purchasing*. Glasgow: Scottish Forum for Public Health Medicine, 1995.
- Haas M, Viney R, Kristensen E, Pain C, Foulds K. Using program budgeting and marginal analysis to assist population based strategic planning for coronary heart disease. *Health Policy* 2001;55:173-186.
- Madden L, Hussey R, Mooney G, Church E. Public health and economics in tandem: programme budgeting, marginal analysis and priority setting in practice. *Health Policy* 1995;33:161-168.
- Miller P, Parkin D, Craig N, Lewis D, Gerard K. Less fog on the Tyne? Programme budgeting in Newcastle and North Tyneside. *Health Policy* 1997;40:217-229.
- Mitton C, Donaldson D, Dean S, West B. Program budgeting and marginal analysis: a priority setting framework for Canadian regional health authorities. *Healthcare Management Forum* 2000;13(4):24-31.
- Mitton C, Donaldson C. Twenty-five years of programme budgeting and marginal analysis in the health sector, 1974-1999. *Journal of Health Services Research and Policy* 2001a;6(4):239-248.
- Mitton C, Donaldson C. Setting priorities and allocating resources in health regions: lessons from a project evaluating program budgeting and marginal analysis (PBMA) 2001b (under review).
- Mitton C, Donaldson C. Setting Priorities in Canadian Regional Health Authorities: A Survey of Key Decision Makers. *Health Policy* 2001c (Forthcoming).
- Mitton C, Donaldson C, Halma L, Gall N. *Setting priorities and allocating resources in regional health authorities: a report from two pilot exercises using program budgeting and marginal analysis*. Paper presented at the Canadian Health Economics Research Association, Toronto, 2001.
- Mooney G, Gerard K, Donaldson C, Farrar S. *Priority Setting in Purchasing: Some Practical Guidelines*. (Research paper number 6) Scotland: National Association of Health Authorities and Trusts, 1992.
- Peacock S. *An Evaluation of Program Budgeting and Marginal Analysis Applied in South Australian Hospitals*. Melbourne: Center for Health Program Evaluation, Monash University, 1998.
- Province of Alberta. *Regional Health Authorities Act: Chp. R-9.07*. Edmonton: Queen's Printer of Alberta, 1995.
- Ruta D, Donaldson C, Gilray I. Economics, public health and health care purchasing: the Tayside experience of programme budgeting and marginal analysis. *Journal of Health Service Research and Policy* 1996;1(4):185-193.

Appendix A: Approach to Priority Setting for Health Regions

Program budgeting and marginal analysis (PBMA) is an economic framework that can be applied in health care settings to aid managers in setting priorities and allocating resources. The starting place of the framework is to identify how resources are currently used, and then to examine what changes in the mix of services provided could potentially be made to improve overall benefit to the given population. It is a hands on approach, which involves consideration of the literature, research projects, local data and local expert opinion. Basically, a PBMA exercise is about trying to measure needs met from available resources. To do this, PBMA involves asking five questions about resource use:

1. What resources are available in total?
2. In what ways are these resources currently spent?
3. What are the main candidates for more resources and what would be their effectiveness?
4. Are there any areas of care which could be provided to the same level of effectiveness but with less resources, so releasing those resources to fund candidates from (3)?
5. Are there areas of care which, despite being effective, should receive less resources because a proposal from (3) is more effective (per dollar spent)?

The ‘program budgeting’ relates to the first two questions while final three questions are about the ‘marginal analysis’. This implementation package for managers and clinicians outlines the basic steps to conducting a PBMA exercise.

STEPS FOR PBMA

It should be emphasized that the following steps are only a guide. The process can be broken down into three stages, as described below, and overall the process should take between 4-6 months.

Part I (weeks 1-4)

1. Define the boundaries of the exercise
 - select a program in which (or programs across which) the priority setting exercise will occur
 - identify the program(s) objectives & develop a guiding question for the exercise (e.g., ‘Can the mix of services provided be altered to improve benefit to this population?’)
 - note budget neutrality - expansions must be made through parallel resource releases
2. Decide who is to be on the ‘expert panel’
 - all relevant stakeholders: likely includes administrators, clinicians, physicians
 - when relevant, public can be consulted with focus groups (may or may not be part of panel)
3. Construct the program budget using relevant dimensions
 - activity data: number of patients, ALOS, throughput, other indicators, benchmarks
 - costing data by disease grouping, facility, etc.
4. Review relevant literature, research projects and other materials
 - papers, projects or policy documents that you know of in the organization
 - Medline search (<http://www.ncbi.nlm.nih.gov/PubMed/>) for relevant papers
 - government and College of Physicians publications

PART II (WEEKS 4-20)

5. Call the first expert panel meeting
 - send out a package describing PBMA, any PB information and a literature review summary
 - include several options for service delivery changes to get the group thinking

- ask group members to think of further options and to bring these to the first meeting
6. Hold the expert panel meetings (the actual number of meetings will likely vary)
- **Meeting 1:** provide background information to PBMA (NB: PowerPoint slides available from researchers); review/ revise the program budgets; outline key service delivery options including a review of the literature; have the group brainstorm on other service delivery options; develop a set of working criteria against which service delivery options can be compared (e.g., health gain, non-health outcomes, provider impact, resource impact)
 - prior to meeting #2, work on refining program budgets to meet specific needs raised in the group session; discern which of these initially generated options fall under the category of ‘service expansions’ and which will result in ‘resource releases’, and list these in tabular form
 - **Meeting 2:** focusing on the service delivery options falling under the ‘service expansion’ category, discuss other options yet to be mentioned, and begin to rank the options using defined criteria if required (in some cases the ranking will be obvious, in other cases the criteria might be more useful) – the intent here is to identify options which are of highest priority through to those of lower priority, in a rank order
 - by the end of meeting #2, a list of priority areas for expansion should be derived; before meeting #3 these options should be costed out, and specific benefits of these options outlined, again in tabular form
 - **Meeting 3:** review the expansion list, noting costs and benefits of each option, and make final changes as required; begin to generate a list of potential areas for resource release, starting with another brainstorming session (e.g., freeing up nursing time by shifting administrative duties to more appropriate personnel, instituting more efficient clinical practice patterns, or reducing specific services due to minimal benefit currently being produced)
 - before meeting #4, each expert panel member should be met with individually to identify specific areas for release; tabulate each potential area for release and cost out options
 - **Meeting 4:** present the resource release list generated through the individual meetings; review each one and assess whether the resources as initially proposed could in fact stand as potential areas for release
 - before meeting #5, construct a summary table which has at the top areas for expansion along with the costs and benefits of these items, and at the bottom areas for potential reduction including costs and consequences of not doing these items
 - **Meeting 5:** present the summary table and note specific changes on the various options; go through each expansion option and explicitly weigh these against each release option using the defined criteria; mark cases where it is deemed that more benefit per \$ spent is derived with the expansion items vis-a-vis comparison to the release options, while considering other important criteria such as access or urgency, as per the pre-defined criteria
 - before meeting #6, discuss options for change with Director to determine if some items should not stand for potential release (due to ‘organizational factors’)
 - **Meeting 6:** derive a final list of recommendations either for service delivery re-design (including expansions and reductions) or maintenance of the status quo, in summarized form
- Part III (weeks 21-24)*
7. Write a brief report outlining the priority setting process used and stipulating the key recommendations from the marginal analysis process, and submit to relevant personnel. The report should also include measurable steps for follow-through for acting on the proposed service delivery changes, including the specific people responsible for enacting the change and the timelines involved.