

A model for health services priority setting for Iran

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Abstract: Although priority setting has a long history, but until recent years even developed countries have mainly relied on implicit methods for priority setting. But the evidence show that implicit priority setting is not acceptable since this method neither lead to benefit maximization, nor consider issues such as equity, equality and community participation. Hence it is necessary to design a model which is capable of overcoming these issues. Present qualitative research was carried out in six phases: 1. identifying models 2. Identifying attributes 3. ranking attributes 4. Evaluation of the models 5. Developing primary model 6. Validating primary model through Delphi technique. Content analysis and descriptive statistics were used for data analysis. Ten priority setting models identified. Evaluation of the models based on performance criteria demonstrated that HSW-DBM and ACE had the best performance against the criteria. On the other hand, historical allocation and decibels had the worst performance. suggested model better satisfies the performance criteria compared to existing models. The suggested model is enough flexible to be used at different levels and different settings of the health system. Applying this model can guide decision makers and policy makers toward optimum resource utilization and fair distribution.

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Key words: Economic approach, Priority setting model, Disease based model, Evidence based priority setting.

1. Introduction

Health care, like other public goods and personal services, does not operate in an environment of unlimited resources (Wolfe and Stange, 2006). Increasing health care public expenditures have led policymakers around the world to focus their attention on the subject of priority setting (Robinson, 1993). Priority setting is arguably the most important health policy issue of our time. No health system, whether primarily publicly funded or privately funded can afford to provide every service it may wish to provide (Kapiriri and Noreheim, 2004; Martin and Singer, 2003; Klein, 1999), this is specially true in developing countries (Kapiriri and Noreheim, 2004).

The primary task of priority setting is to determine desirable resource shifts- health services to be expanded and those to be contracted- to support the achievement of health and other social objectives (Segal and Mortimore, 2006). Different models and institutional arrangements have been developed to help doing this task (Robinson, 1993) No easy solutions are available for priority setting, so it is necessary that countries develop an information set to facilitate decision making. This process needs transparent approach and explicit debate about the principles and criteria to be used to make decisions about allocating health care resources (Kapiriri and Noreheim, 2004)

Although solutions differ, what unites them is the need to target and prioritize public spending. This

is especially relevant in countries where funding levels fall much short to provide a comprehensive set of essential health services (Baltussen, 2006). In developing countries resources may be excessively concentrated in urban facilities serving the middle and upper classes. The poor especially in rural areas are left with low- quality public services (Streefland, 2005). In addition, resources are often being spent on low impact services such as curative care of non catastrophic illness (Overseas Development Institute, 2003). These inequities and inefficiencies indicate the need for a careful use of scarce public resources in health which could be guided by a more rational approach (Baltussen, 2006; Martin and Singer, 2000; Segal and Chen, 2001a).

Although, there is growing interest in priority setting, there is little consensus on the best way to carry it out, different approaches have been proposed, ranging from guidelines, checklists and minimum packages to explicit criteria (Kapiriri and Noreheim, 2004). Iran as a developing country has measured the burden of disease at the national level but it has not been applied as a guide for priority setting until now.

Since there is no unique model for priority setting to be used worldwide, we carried out this study in order to develop a customized health services priority setting model for Iran.

2. Material and Methods

This study was carried out in following phases:

1.Literature review in order to explore main procedures and techniques used to guide priority setting which could be retrieved through web search.

2.We identified 19 attributes which were important for an evidence based priority setting model through literature review and interviews with informants.

3.We changed 19 identified attributes into a Likert scale questionnaire and asked the 36 informants (experts, policy makers) to score the attributes based on their properness to be part of performance criteria. Of 36 distributed questionnaire 26 were answered completely with response rate of 72.22 percent

4.We selected first 9 highest ranked attributes to develop performance criteria against which we assessed the identified priority setting models in using the following scoring method suggested by Mullen[12]

-meets the proposed criteria well- allocate 7-9 points

-meets the criteria average – allocate 4-6 points

-meets criteria poorly- allocate 1-3 points

5.We developed our recommended model for use in Iranian health services priority setting based on the model which met performance criteria best after validation via Delphi technique in three rounds.

Sample: We used the purposeful sampling method to explore the experts and policy makers with at least 2 of these qualifications:

-minimum 10 years experience in health services policy making

-academic education in related fields (health services administration, health economics or health policy making)

-Experience in health services priority setting

We could find 36 participants with mentioned characteristics of them 26 answered the questionnaire completely

3. Results

Priority setting models

The literature review revealed priority setting models which can be categorized in 2 broad groups 1. Non-economic approaches to priority setting 2. Economic approaches to priority setting (Mitton and Donaldson, 2004a) these models are summarized in table 1. The main characteristic which distinguishes economic approaches from non- economic ones is the emphasis put by economic models on economic principles.

Priority setting models important attributes:

We reviewed the literature and also interviewed informants to explore 19 attributes which are expected from any priority setting model i.e. we expect that a desirable priority setting model should bring in. These attributes are summarized in table 2.

Table 1. Healthcare priority setting models

Non- economic models	Economic models
- Historical allocation and decibel (Mitton and Donaldson, 2004a)	- QALY league tables (Coast et al, 1996)
- Burden of disease (Segal and Chen, 2001a; Segal and Chen, 2001b; Wiseman and Mooney, 1998).	- Economic evaluation techniques (Mitton and Donaldson, 2004a; Drumond et al, 2005)
- Target and Goals (Segal and Chen, 2001a ; Segal and Chen, 2001b)	- Program budgeting and marginal analysis (PBMA) (Mitton and Donaldson, 2004a; Mitton and Donaldson, 2004b)
- Cost of illness (Segal and Chen, 2001a ; Segal and Chen, 2001b)	- Assessment of cost effectiveness (ACE) (Segal and Chen, 2001a ; Segal and Chen, 2001b; Segal and Mortimore, 2006)
- Defining core services (Mitton and Donaldson, 2004a)	- Health sector wide disease based model (HSW-DBM) (Segal and Chen, 2001a ; Segal and Chen, 2001b; Segal and Mortimore, 2006)

Table2. Priority setting models important attributes

Attribute	Score
1. Considering economic principles i.e. marginal analysis and opportunity costs	4.69
2. Decision rule is explicit about how to achieve optimal combination of services	4.61
3. Equity concerns is addressed	4.42
4. Considering existing and potential interventions rather than	4.34
5. Possibility for implementation based on possibilities and limitations of the society	4.27
6. A mechanism for evaluating the priority setting process is predicted	4.23
7. A mechanism is predicted for consumers and public involvement	4.11
8. Suitable method for measuring costs and benefits of different interventions is predicted	4.07
9. The national priorities can be incorporated	4.03
10. The flexibility is incorporated so that the model can be used at different levels	3.96
11. Priority setting process is carried out in an explicit manner	3.96
12. Decision making is based on explicit evidence	3.92
13. Priority setting processes are politically acceptable	3.84
14. A mechanism for stakeholders participation is defined	3.76
15. Considering specific conditions of any region	3.65
16. Considering the efficiency improvement	3.57
17. Priority setting objectives are cleared	3.57
18. Enabling resource shifts among different sectors and programs	3.54
19. Decision making about interventions is not restricted to ministry of health	3.30

-Evaluating Priority setting models important attributes

The 26 completed questionnaires revealed that “considering economic principles” i.e. marginal analysis and opportunity costs and “decision rule is explicit about how to achieve optimal combination of services” received the highest scores (see table 2) while “Decision making about interventions is not restricted to ministry of health” and “Enabling resource shifts among different sectors and programs” received the lowest scores (see table 2). However the fact that all attributes received scores more than 3 is not surprising, since all these attributes are desirable expectations of any priority setting approach.

- Performance Criteria

We chose first 9 highest ranked attributes from table 2 in order to form the performance criteria against which the priority setting models are compared. In

the final list the attributes could be categorized under following labels:

- Economic attributes (items 1, 2 and 8)
- social attributes (items 3,4 and 7)
- potential of implementation attributes (items 5,6 and 9).

Comparing priority setting models against performance criteria

We compared identified models against performance criteria and allocated scores according to their compatibility with performance criteria attributes. The final scoring revealed that HSW-DBM and ACE models received the highest scores while historical allocation and decibels and Goals and targets models received the lowest scores

Developing model

HSW-DBM and ACE models have the best performance against criteria. Therefore, we decided to base our model on HSW-DBM and try to

overcome the weaknesses using ACE features. As a result, we developed the refined HSW-DBM which is more suitable for our health system than the original one. The refined HSW-DBM is consisted of the following stages (illustrated in figure 1).

4. Discussions

A- Model discussion:

Priority setting using this model involves detailed tasks in each stage

1. In the first stage "Preliminary activities" following tasks have to be done:

-Identify priority setting objective(s): these objectives might be:

- Achieving allocative efficiency using existing resources
- Allocating new resources in order to achieve allocative efficiency
- Determining contraction candidates when the resources are decreased and etc.

- Define priority setting scope

This task is very important since it determines analysis extension, maybe to cover the health sector wide.

-Identifying stakeholders

Here based on the scope of priority setting all the stakeholders have to be identified

-Form advisory working group

This advisory group must have members of identified stakeholders and for technical reasons a health economist and clinician.

-Determine decision criteria: decision criteria is based on community values, equity, access and political acceptability

Forming this group by incorporating key stakeholders increases the probability of implementing the recommendations.

2. Select a disease/health problem:

We used disease based approach for priority setting because of the following advantages: ensuring a focus on resource allocation between diseases stages, supporting staging of the research task with little risk of sub- optimization, capacity to observe distributional impacts, opportunity to use intermediate outcome measures and research efficiency (Segal and Chen, 2001b)

In order to choose the disease to begin priority setting process following guidelines may be useful:

- National priorities
- Disease severity
- Equity issues

- Access to information on cost and effectiveness

3. Draw priority setting framework

In this stage following tasks are performed:

-obtain a thorough understanding of the disease health /problem in terms of disease etiology, normal disease progress and feasible points of intervention to reduce disease burden

-Draw the priority setting framework based on through understanding of the disease.

-Extend the analysis based on priority setting scope for example in Iran, health centers in rural and urban areas are mainly concerned with primary and secondary care as a result, the priority setting framework for services provided by these centers would be limited to pertaining disease stage.

-Identify all potential intervention options at each disease stage processing cell by cell, down a column regardless of the modality, health delivery setting, target population, etc.

-Select interventions to include in the priority setting exercise contingent upon constraints related to the availability of data

4. Determine the cost/benefit ratio of the interventions

In this stage following tasks are performed:

-Specify the measure of benefit: the selected measure of benefit should allow comparison between and within disease stages, if possible a final outcome measure.

-Collect evidence on costs and outcomes from published clinical trial literature

-Calculate the cost effectiveness of each intervention at each disease stage

-Rank the identified interventions based on their cost/outcome ratio

-Make primary recommendation on desirable resource shifts i.e. from least cost- effective interventions to best cost- effective interventions.

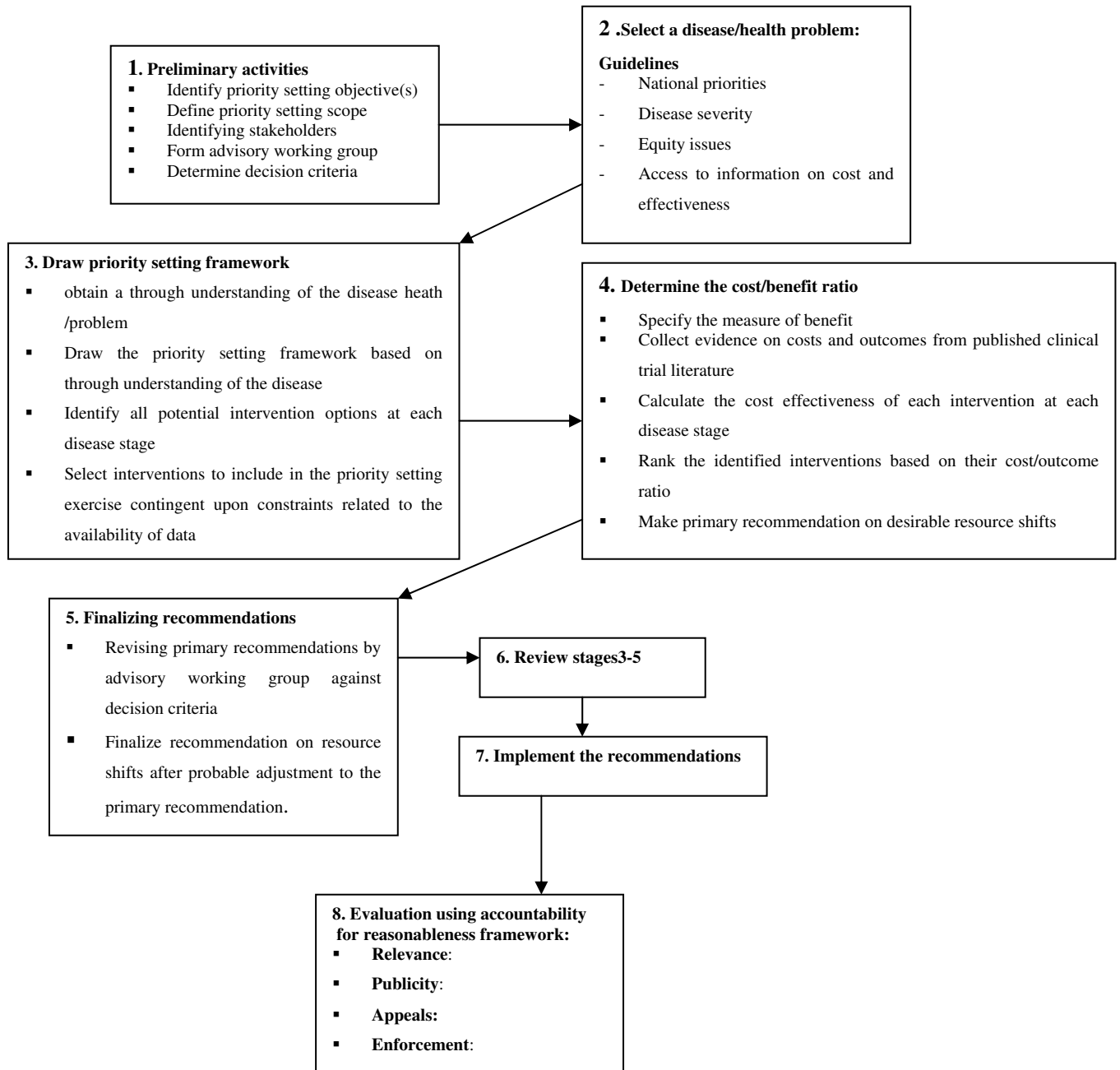
5. Finalizing recommendations

- Revising primary recommendations by advisory working group against decision criteria

In this stage the recommendations are revised by working group using decision criteria. This stage although undermine the evidence base of the model but instead increases the acceptability of model for stakeholders and as a result, there will be fewer barriers for implementing the recommendations.

-Finalize recommendation on resource shifts after probable adjustment to the primary recommendation.

Figure 1. Refined HSW_DBM



6. Review stages 3-5

7. Implement the recommendations

8. Process evaluation: like any other process, priority setting needs a stage for evaluation, although in the suggested model some sort of evaluation is predicted in stage 6, but that is not sufficient since it is partial and only focus on 3 stages of the process. In order to obtain a thorough evaluation we recommend using accountability for reasonableness framework suggested by Daniels and Sabin: (Martin and Singer, 2003; Segal and Mortimor, 2006; Martin and Singer, 2000; Segal and Chen, 2001b; Kafiriri and Martin, 2006; Kafiriri and Norheim, 2007; Martin et al, 2003; Martin, 2007; Daniels and Sabin, 2002).

- Relevance: Rationales for priority setting decisions must rest on reasons (evidence and principles) that “fair-minded” people can agree are relevant in the context. “Fair-minded” people seek to cooperate according to terms they can justify to each other—this narrows, though does not eliminate, the scope of controversy, which is further narrowed by specifying that reasons must be relevant to the specific priority setting context.
- Publicity: Priority setting decisions and their rationales must be publicly accessible—justice cannot abide secrets where people’s well being is concerned.
- Appeals: There must be a mechanism for challenge, including the opportunity for revising decisions in light of considerations that stakeholders may raise.
- Enforcement: There is either voluntary or public regulation of the process to ensure that the first three conditions are met.

B- Comparison with other models

The revised health sector wide disease base model has elements in common with other economic based approaches such as PBMA (Segal and Mortimor, 2006; Mitton and Donaldson, 2004a; Segal and Chen, 2001b; Mitton and Donaldson, 2004b; Mitton and Donaldson, 2002; Mitton, 2002; Mitton and Donaldson, 2003), QALY league table (Segal and Mortimor, 2006; Mitton and Donaldson, 2004a; Segal and Chen, 2001b; Mitton and Donaldson, 2003) and specially with ACE (Segal and Mortimor, 2006; Segal and Chen, 2001b) and HSW-DBM (Segal and Mortimor, 2006; Segal and Chen, 2001b). In this part refined HSW-DBM is compared with those models in brief.

Comparison with PBMA:

Commonalities :

- Taking marginal perspective and considering opportunity costs as two main economic principles.
- Considering issues such as equity, community values, and access in decision criteria set.
- Forming advisory group in order to finalize the resource shifts

Distinctions:

Refined HSW-DBM is distinguished from PBMA model in following aspects:

- PBMA is a program based model for priority setting while the refined HSW-DBM is a disease based model.
- PBMA heavily relies on expert panel in order to set up expansion and contraction list and to develop desirable resource shifts but our model although considers Advisory working group suggestions, but primarily is an evidence based approach to priority setting.
- PBMA has no formal mechanism to evaluate the process but refined HSW-DBM evaluates the whole process via Accountability for reasonableness framework in order to ensure the process is fair and explicit. This feature of our model is unique, although numerous studies has been done to evaluate the priority setting process using accountability for reasonableness framework (Martin and Singer, 2003; Segal and Mortimor, 2006; Martin and Singer, 2000; Segal and Chen, 2001b; Kafiriri and Martin, 2006; Kafiriri and Norheim, 2007; Martin et al, 2003; Martin, 2007; Daniels and Sabin, 2002) but none of them has integrated this framework as part of an evidence based model.

Comparison with Assessment of cost effectiveness:

Commonalities:

- Taking marginal perspective and considering opportunity cost as two main economic principles.
- Forming the advisory working group and using similar decision criteria and tasks
- Relying on published evidence on effectiveness to rank different suggested interventions as the first stage filters.
- The role of second stage filters (community values, national priorities, equity, access and etc.) in the final ranking of interventions.

- Community participation is predicted in both models.

Distinctions:

- ACE model is limited to programs but the refined HSW-DBM is capable of extending to the whole health sector.
- ACE model recommend use of DALY as the primary outcome measure but in the refined HSW-DBM no single outcome measure is determined and the selection of outcome measure will be as part of the priority setting process.
- We have included a stage titled as preliminary activities at the beginning of the process which consists of activities very important to the whole process but the ACE model lacks this stage.
- Applying accountability for reasonableness as the framework for evaluation of the process is another distinction of our model relative to ACE model.

Comparison with original HSW-DBM:

The HSW-DBM has much in common with the suggested model since our model is based on HSW-DBM, notably the disease focus and great reliance on objective evidence, other similarities are as followings:

- Adoption of marginal perspective and considering opportunity costs.
- Health sector wide planning framework
- Similar criteria to decide on the disease by which the process begins.
- Similar decision criteria on resource shifts within and between disease stages.

Distinctions:

Where the HSW-DBM differs from suggested model is in the role of the advisory working group in selecting intervention options resource shifts, rather than the use of objective criteria for this process, onset of the suggested process with “preliminary activities” in order to increase the chance of implementation of the recommendations, the role of second stage filters in final ranking of interventions and finally adoption of the accountability for reasonableness as the standard framework for evaluating the process.

Limitations:

There are some limitations in our study which may affect its applicability in other developing countries some of them are:

- The proposed decision criteria against which the priority setting models were compared

were prepared based on Iranian health policy makers and experts. Since in each nation the value system, concerns, needs and health problems differ so decision criteria might be different if it was based on other countries experts

Conclusion:

The revised HSW-DBM for adoption by Iranian health sector largely follows the structure of the HSW-DBM but also incorporating some aspects from the ACE model and integrates the well known frame work of accountability for reasonableness to model. The most important part of the model is its first and last stages. In the first stage by determining the objective(s) and scope of priority setting the stakeholders are identified and we can incorporate them in the working party in order to facilitate the process and when the objective is clear we can adjust our next activities based on objective(s), scope and criteria.

A very interesting feature of the HSW_DBM which is true for our model is its flexibility which makes it suitable for different settings priority setting. Since it is capable of encompassing the whole health sector, it can be easily applied at any other level. For example it might be useful in defining benefit package for insurance companies in Iran to define basic insurance benefit package.

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