PP Yuen
DB Gould

Rational rationing of health services: an innovative approach for charging and financing health services in Hong Kong

Key Messages

1. There is a need to establish a more rational and transparent cost-recovery framework for public hospitals in Hong Kong.
2. A Delphi group consensus method is one viable approach to developing such a frame-work.

Introduction

Priority setting and rationing of health services has been adopted in many countries in North America, Australasia, and Europe.[1-3] In Asia, however, most countries have not yet embarked on such strategies.

In Hong Kong, institutions under the Hospital Authority provide Hong Kong residents a comprehensive range of secondary and tertiary care at a heavily subsidised rate. Over 90% of the Hospital Authority's income is from the government's general revenue. Patients in public hospitals pay a fixed per diem fee (approximately US$8 per day) that covers less than 2% of the actual average cost of a patient day in an acute public hospital.[4] The per diem fee is all-inclusive with the exception of a shortlist of privately purchased medical items (PPMI) for which patients pay the full cost.[5] The basis for inclusion of the items on the PPMI list appears to be historical and arbitrary. The basis for setting fees and charges is unclear and not transparent. The amount of revenue generated from these charges is too low to be of any significance. There has also been some concern that the system does not target government subsidies of cost-effective services, or vulnerable individuals. Subsidised services do not necessarily reflect societal values. In theory, the system provides almost everything to every Hong Kong resident seeking care at public hospitals at a nominal fee. There is a need to establish a more rational and transparent cost-recovery framework for public hospitals in Hong Kong.

Aims and objectives

Using a Delphi method with separate panels of clinicians and lay persons to determine priority setting, service rationing, and fee structures, this study set out to explore an explicit priority-setting approach in Hong Kong.

This study starts with the premises that the bulk of existing medical interventions provided by public hospitals are suitable and should be publicly subsidised, and that only those interventions that are (1) not effective, and (2) not in line with societal values should be excluded. The objective was to create a high degree of consensus within and between the providers and consumers of health care services on the types of medical intervention that should not be subsidised with taxpayers' money.

Methods

This study was conducted from September 1995 to August 1998. The Delphi method—a group consensus method—was used to identify goals, reveal group values, and establish priorities based on the pooled decision in each of the two phases of the study.[6] To decrease the inter-personal dynamics of face-to-face decision making, participants were invited to respond to questions. The views of individual participants were not identified to each other during the course of the study, but were anonymously included in each stage of the inquiry.

In phase 1 of the study, a panel of 35 chiefs-of-service (COS) of public hospitals participated in a three-round Delphi exercise via mail or fax to

Department of Marketing and Management, The Hong Kong Polytechnic University
PP Yuen
Public Policy Research Institute, Hong Kong Polytechnic University
DB Gould

HSRF project number: 421028

Principal applicant and corresponding author:
Prof Peter P Yuen
Department of Marketing and Management, The Hong Kong Polytechnic University, Hunghom, Kowloon, Hong Kong SAR, China
Tel: (852) 2766 7388
Fax: (852) 2365 8645
E-mail: mspeter@inet.polyu.edu.hk

identify medical interventions (diagnostic/treatment pairs) that should not be provided free-of-charge in public hospitals, on the basis of (a) clinical effectiveness, and (b) other reasons. Chiefs-of-service were chosen because of their expertise, dual manager-clinician role, and involvement in day-to-day decision-making. In the first round, they were asked to list interventions that, in their opinion, were of "questionable effectiveness" or should be charged for "other reasons". In the second round, they were asked to indicate on a four-point scale their agreement with the list allocation. The score for each item was then added and presented to the panel in the final round. In the final round, panellists were shown the round 2 scores, and were asked again to provide a score for each of the items. A high positive score corresponded to a high degree of consensus among the panellists that the item should be charged for, the opposite being true for a negative score.

In phase 2 of the study, the results from phase 1 were presented to a second panel of 43 lay people, who were charged with the task of preparing the final list of chargeable interventions in public hospitals. Panel members were white-collar, middle-class managerial personnel or professionals, with a balance of male/female, and of those who were with/without private medical insurance. The intention was to have a panel consisting of members that were not just consumers of public health care, but were also taxpayers who finance a large part of the public hospital system, and who are well placed by their work to gauge the views of other taxpayers. Members of this panel also went through three rounds of consensus seeking. As members of this panel were lay people, who might not be knowledgeable about specific medical conditions and interventions, the data collection format differed from that of phase 1. Three separate meetings were held. Participants were divided into groups of five or six members and given a brief description by the researchers of each diagnosis-treatment pair listed and were then asked to scale the items. The researchers served as resource persons. Participants were allowed to use a large number of resources when making decisions including the Australian National Diagnosis Related Groups (AN-DRG, v3.1), and the Cochrane Database (Cochrane Collaboration 2000). Lay panel members could refer to these aids in the event of questions regarding the diagnostic-treatment pairs, relative costs, and effectiveness. While the participants could discuss the issues among themselves, they completed the questionnaire on an individual basis. Participants could also introduce items not on the list. The two-stage approach adopted by this study, using separate physician and lay panels, aimed to ensure that lay members would not feel threatened by the presence of the physicians.

Results

Prioritisation by clinicians
In round 1, the COS identified 246 potentially chargeable interventions. In the final round, however, the number of

Table 1. Chiefs-of-service panel's top 10 list of chargeable interventions in public hospitals

Rank	Intervention	Score
1	Routine health check for healthy persons	30
1	Computed tomography of the lung for healthy persons	30
1	Treatments of non-urgent cases at accident and emergency departments	30
4	Cosmetic surgeries	29
5	Facial plastic surgeries due to ageing	28
5	Cosmetic breast augmentation	28
7	Cord blood banking for future use	26
7	Prescription of Viagra for impotence	26
7	Specific brand name drugs instead of generic	26
10	Circumcision for healthy infants	24

Table 2. Lay panel's top 10 list of chargeable interventions in public hospitals

Rank	Intervention	Score
1	Cosmetic breast augmentation*	71
2	Specific brand name drugs instead of generic*	68
3	Treatments of non-urgent cases at accident and emergency departments*	67
3	Trans-sexual/sex transformation surgeries	67
5	Cosmetic surgeries*	66
6	Facial plastic surgery due to ageing*	63
6	Laser therapy for acquired cutaneous lesions (eg tattoos)	63
6	Demanded investigations for hypochondriasis	63
9	Prostate-specific antigen for healthy persons	62
10	LASIK or refractive surgery for refractive errors	58
10	Termination of pregnancy for non-medical reasons	58

* Also appeared in the chiefs-of-service panel's top 10 list

items with a positive score was reduced to 127. The top 10 items, in terms of the final score from round 3, selected by the COS panel are shown in Table 1.[7]

Prioritisation by the lay people
Of the items scoring ≥1 by the COS, only 65 interventions received positive scores by lay panel members after round 1. The exercise was repeated twice, and only 59 interventions received a score of ≥1 in the final round, significantly fewer than those from the COS final round. The top 10 items, and their associated final scores from round 3, selected by the lay panel are shown in Table 2.[7]

Discussion

Overall consensus exists for a small number of interventions
The number of interventions receiving a high positive score in the final Delphi round was relatively small. Among the 59 interventions, only 46 received a final score of ≥20. This suggests that a clear consensus for charging exists only for a small number of interventions. Imposing charges for interventions with lower scores is likely to generate controversy. As the number of potentially charge-

able interventions is small, and they are not among the most expensive interventions in terms of unit cost or volume, the added benefit to the revenue flow would be small.

Differences and consensus between chiefs-of-service and lay panels

Medical practitioners and lay people share some common views on charging for medical interventions in public hospitals. Rank correlation analysis shows that the scores for the two panels are positively correlated with a Spearman's Rho of 0.581 (significant at 0.01 level), suggesting general agreement between the two. The lay members did not passively echo the views of the COS panel. Lay participants were, however, less sympathetic towards conditions related to the life-style of the patient than their medical counterparts.

Items on the existing privately purchased medical items list

It is worth noting that with the exception of implants for cosmetic surgery and intra-ocular lens, none of the other items on the existing Hospital Authority's PPMI list received a positive score in the final round.

Limitations and future research

This study has limitations: the composition of the COS and lay panels was not ideal. While all of the specialties were represented in the COS panel, some specialties/subspecialties had fewer representatives than others. With hindsight, the same methodology should have been adopted for both panels, and the COS panel should have had access to the same help information sources. These discrepancies are an important source of bias in this study. In the lay panel, the elderly and people with low income were not represented at all, introducing further bias. While the objective of this study is to gauge the opinions of taxpayers, it would be interesting to find out whether the inclusion of these two groups (and other interest groups, such as unions, employers, insurers) would significantly change the results.

Future studies of this nature should incorporate standardised evidence-based protocols in the decision-making process so that treatment priorities are based on empirical rather than experiential evidence and involve representa-tives of society as a whole. The ethical and social policy framework for assessing interventions as of questionable effectiveness, based on charges or other reasons, should be explicitly stated before priority decisions about specific diagnosis/treatment pairs are made.

Conclusion

This study sought to explore a framework for identifying medical interventions that should not receive subsidies. The participants reached consensus on excluding certain interventions from public funding. The decision rules appear to be based on: (1) whether the intervention is of an elective nature; (2) whether cheaper alternatives are available; and (3) whether the intervention is of a preventive or early detective nature.

Acknowledgement

References

1. Prioritization of health resources: a report to the governor and legislature. Portland, WA: Oregon Health Service Commission; 1991.
2. North N. Reforming New Zealand's health care system. Int J Public Admin 1999;22:525-58.
3. Mossialos E, Maynard A. Rationing in health care (part II). Health Policy (Special issue) 1999;50.
4. Grant C, Yuen P. The Hong Kong health care system. Sydney: University of New South Wales; 1998.
5. Privately purchased medical items. Hong Kong Hospital Authority website: http://www.ha.org.hk/qeh/pat_ser_ppi.htm. Accessed 8 Feb 2006.
6. Moore CM. Group techniques for idea building. Newbury Park, CA: Sage Publications Inc; 1987.
7. Yuen PP, Gould D. Priority setting of hospital services: a demonstration project involving clinicians and citizens in Hong Kong. Asia Pacific Journal of Health Management 2006;1:30-7.