WHAT ARE THE RELATIVE MERITS OF THE SOURCES USED TO IDENTIFY POTENTIAL RESEARCH PRIORITIES FOR THE NHS HTA PROGRAMME?

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Abstract

The NHS Health Technology Assessment (HTA) Programme runs an annual process of identifying suggestions for health technology assessment. The objective of this paper is to describe and evaluate the relative importance of the different sources used by the program in 1998 to identify potential priorities. There were four different sources: a) a widespread consultation of healthcare commissioners, providers and consumers; b) research recommendations from systematic reviews; c) reconsidering previous research priorities which had not been taken forward for funding; and d) horizon scanning. Collectively, the four sources generated just over 1,100 HTA suggestions. By far the largest source of suggestions and priorities was the widespread consultation. However, the success rate of this source, in terms of being commissioned, was low. Research recommendations from systematic reviews provided the second largest source of priorities and the best success rate of all sources. Value was found from different sources for different healthcare areas.

Keywords: Health technology assessment, identification, Health priorities

The National Health Service (NHS) Health Technology Assessment (HTA) Programme is the largest commissioned research program in the NHS research and development (R&D) strategy (2). The aim of the program is to provide high-quality research information on the costs, effectiveness, and broader impact of health technologies in the most efficient way

for those who use, manage, and work in health services (6). Unlike many other research funding initiatives, the NHS HTA Programme seeks to be "needs-led." Health technologies are defined broadly as the methods used by healthcare professionals to promote health, prevent and treat disease, and improve rehabilitation and long-term care. The program is managed on behalf of the NHS Executive by the National Coordinating Centre (NCCHTA) at the University of Southampton.

Since its inception in 1993, the HTA Programme has carried out an annual widespread consultation of healthcare professionals to identify HTA suggestions of relevance to health services. In 1998 a number of additional sources were also used to identify suggestions.

Every year, suggestions are fed into a prioritization process that sifts out the 60 most important HTA priorities. The program has five sequential stages of prioritization, beginning with a preliminary sift of all identified suggestions to eliminate research suggestions already commissioned by the program, suggestions on the primary development of new technologies, and suggestions that are too vague to be considered further (stage A). Second, six advisory panels—acute sector panel (considers suggestions relating to secondary and tertiary care); primary and community care panel (suggestions relating to general practice and community care); pharmaceutical panel (drugs and drug delivery systems); diagnostics and imaging panel (diagnostic tests and imaging modalities); population screening panel (population screening programs for asymptomatic people); and methodology panel (methods of HTA)—meet to decide which of the "raw" suggestions (stage B) should be prioritized using the following criteria:

- What are the benefits from an assessment in terms of reduced uncertainty?
- How long might it be before benefits could be realized?
- Would the assessment be likely to offer value for money?
- How important is an early assessment?
- Are there any factors relating to the technology that might have a bearing on the importance of performing the assessment?

Then the advisory panels request short briefing papers, or "vignettes," to be written on prioritized suggestions (stage C). Third, the advisory panels meet again to discuss the vignettes and decide which of the vignettes should be prioritized (stage D). Last, the prioritized vignettes are then sent to the Standing Group on Health Technologies (SGHT), which makes the final decision on which research suggestions are taken forward for commissioning from the research community (stage E). Further information on this process is available elsewhere (1;6).

The objective of this study was to describe and evaluate the different sources used by the HTA Programme in 1998.

METHODS

Terminology

The terminology used in this paper is as follows:

- *Suggestions*: The raw problems submitted to the NHS HTA Programme via the four sources;
- *Potential priorities*: Suggestions that are considered at any of the five stages of prioritization (outlined in the introduction of this paper); and
- *Priorities*: Potential priorities that are prioritized by the SGHT for commissioning.

Sources Used to Identify Research Suggestions

The sources used by the NHS HTA Programme in 1998 to identify suggestions were:

1. A postal survey of commissioners, providers, and consumers of health care within health services. Over 3,000 people were consulted from professional bodies, universities, hospitals, healthcare charities, health services research managers, and health authorities. Consultees were sent a letter explaining the role of the HTA Programme and a pro forma. In addition, an advertisement was placed in *Bandolier*, an evidence-based newsletter requesting HTA suggestions (in analyses, these were grouped under "widespread consultation").

2. Completed reviews from the HTA Programme, Cochrane reviews, DARE reviews, and InterDEC reports (3) were searched for research recommendations (in analyses, these were grouped under "systematic reviews").

3. Research needs prioritized by the HTA Programme in the previous year that did not gain high enough priority to be commissioned were reconsidered (in analyses, these were grouped under "reconsidered").

4. Horizon scanning, provided by the University of Birmingham. Horizon scanning seeks to identify technologies that are new or have undergone significant changes, could be very important for health services, have major cost and/or major clinical benefits, and/or indicated a need for service organization within the next 1–3 years (9). Sources used in horizon scanning were local, national, and international experts and expert groups, journals, licensing agencies, financial reports, newspapers, other media, and the Internet (in analyses, suggestions from this source were grouped under "horizon scan").

Methods of Analysis

The importance of each source was measured in three ways: a) by calculating the relative contribution of the different sources at each stage; b) by calculating the success rate (at any given stage), i.e., the proportion of potential priorities coming from different sources; and c) by calculating (at any given stage) the proportion of potential priorities coming uniquely from the different sources.

RESULTS

Just under 1,400 suggestions were submitted to the NHS HTA Programme in 1998. The results below related to the 1,113 that fell within the remit of the program.

Tables 1–4 give the number and proportion of suggestions identified in 1998 and the number and proportion of potential priorities at each of the five prioritization stages A to E. The tables also show the number of research priorities (at each prioritization stage) resulting from suggestions. The number of priorities tends to be smaller than the number of suggestions because several sources may have identified the same suggestion.

Contribution of the Sources

Table 1 shows the number and proportion of suggestions that were identified by each source. The widespread consultation contributed 811 of the 1,113 suggestions (73%). It also contributed the largest source of potential priorities at all stages (B to E in Table 1). However, the proportion of potential priorities contributed by the widespread consultation decreased through the stages of prioritization.

The second largest source of identified suggestions was horizon scanning, with 120 of the 1,113 suggestions (11%), followed closely by suggestions from systematic reviews, with 113 of the 1,113 suggestions identified (10%). An increase in the proportion of potential priorities contributed through scanning systematic reviews and by reconsidered topics was shown during the prioritization process.

Table 1. Number and Proportion of Suggestions from Each Source at Each Prioritization Stage (Labeled A to E)

Source	A	B	C	D	E
Widespread consultation	811 (73%)	554 (68%)	92 (54%)	64 (57%)	39 (57%)
Systematic reviews	113 (10%)	105 (13%)	32 (19%)	24 (21%)	16 (23%)
Reconsidered topics	69 (6%)	52 (6%)	21 (12%)	13 (12%)	8 (12%)
Horizon scan	120 (11%)	100 (12%)	26 (15%)	11 (10%)	6 (9%)
Total number of suggestions	1,113 (100%)	811 (100%)	171 (100%)	112 (100%)	69 (100%)
Total number of potential priorities (A to D) and priorities (E)	—	551	105	66	41

Table 2 shows the sources of potential priorities prioritized at the second advisory panel meetings in 1998. The widespread consultation was the largest source of potential priorities for all of the panels. Systematic reviews provided an important source of suggestions for most panels. Reconsidered topics provided the second largest source of suggestions for the primary and community care panel (17% of prioritized suggestions).

Success Rate

Table 3 shows the success rate of each of the sources at each of the four stages of prioritization. This table shows a very different picture from Table 1. Of those suggestions identified by the widespread consultation, only 39 of 811 (5%) were prioritized by the SGHT. In contrast to being the largest contributor of research suggestions, the widespread consultation generated one of the lowest success rates of priorities. The highest success rate of priorities was generated by research recommendations from systematic reviews. Of the 113 research suggestions identified from systematic reviews, 16 were prioritized by the SGHT (14%).

Value of Sources Individually

The analyses above have considered the proportion of suggestions identified and prioritized for each source. However, suggestions may have arisen from a number of sources and/or

Table 2. Number and Proportion of Suggestions from Each Source Considered by the Six Advisory Panels at Their Second Meeting (Prioritization Stage D)

Source	Acute	D&I	Method	PCC	Ph	PSc	Total
Widespread consultation	9 (43%)	14 (82%)	5 (50%)	21 (72%)	9 (41%)	6 (46%)	64
Systematic reviews	6 (29%)	2 (12%)	1 (10%)	3 (10%)	8 (36%)	4 (31%)	24
Reconsidered topics	0	1 (6%)	4 (40%)	5 (17%)	0	3 (23%)	13
Horizon scan	6 (29%)	0	0	0	5 (23%)	0	11
Total number of suggestions	21 (100%)	17 (100%)	10 (100%)	29 (100%)	22 (100%)	13 (100%)	112 (100%)
Total number of potential priorities	12	12	9	12	12	9	66

Table 3. Success Rate of Each Source at Each of the Prioritization Stages (Labeled A to E)

Source	A	B	C	D	E
Widespread consultation	811	554 (68%)	92 (11%)	64 (8%)	39 (5%)
Systematic reviews	113	105 (93%)	32 (28%)	24 (21%)	16 (14%)
Reconsidered topics	69	52 (75%)	21 (30%)	13 (19%)	8 (12%)
Horizon scan	120	100 (83%)	26 (22%)	11 (9%)	6 (5%)

from a number of consultees (e.g., a systematic review may have recommended the need for a trial of coronary stents, and one or more consultees from the widespread consultation may have also suggested this). Thus, each priority could have arisen from one or more research suggestions. This information needs to be disentangled to assess the proportion of priorities that came uniquely from the different sources.

Table 4 shows the number of priorities that were identified by one or multiple (two or more) sources. Uniquely, the widespread consultation contributed 19 of the 41 priorities (46%), and systematic reviews contributed 8 of the 41 priorities (20%).

DISCUSSION

Collectively, all the sources used to identify suggestions generated just over 1,100 HTA suggestions in 1998. By far the largest source of suggestions, potential priorities, and priorities was the widespread consultation. However, through the stages of prioritization there was a decline in the proportion of widespread consultation suggestions prioritized and the success rate was very low: just 5% of widespread consultation suggestions were prioritized by the SGHT.

Research recommendations from systematic reviews provided a large source of suggestions. The proportion of potential priorities from this source increased through the prioritization process, and systematic reviews were the second largest source of priorities. This source had the best success rate: 14% of research recommendations from systematic reviews were prioritized by the SGHT.

Different sources appear to have different values across the advisory panels. Horizon scanning was a particularly valuable source for acute sector and pharmaceutical panel suggestions, although its overall success rate was low. Reconsidered suggestions from the previous year's prioritization process were a good source of primary and community care panel suggestions, and research recommendations from systematic reviews were a good source of diagnostics and imaging and population screening panel suggestions.

The study might in principle have been strengthened in three ways by: a) comparing the sources used in 1998 with those used in previous years; b) distinguishing between different subgroups within the widespread consultation (for instance, healthcare commissioners,

Table 4. Number of Potential Priorities Arising from the Six Advisory Panels and Prioritized by the SGHT (Prioritization Stage E) That Came Uniquely from One Source

Unique source	Acute	D&I	Method	PCC	Ph	PSc	Total
Widespread consultation	3	5	4	1	4	2	19 (46%)
Systematic reviews	2	1	1	0	2	2	8 (20%)
Reconsidered topics	0	0	2	2	0	0	4 (10%)
Horizon scanning	2	0	0	0	2	0	4 (10%)
Two or more sources	1	1	0	2	0	2	6 (15%)
Total number of priorities	8	7	7	5	8	6	41 (100%)

providers, and consumers); and c) collecting resource data to assess the relative contributions of each source. In practice, this information was not available.

This paper has described the sources used by the NHS HTA Programme to identify HTA suggestions and detailed the contribution and success rate of these sources in producing research priorities for the program. The question that remains is why certain sources generated a better success rate and contribution to priorities than others.

The advisory panels are provided with information on the source of each of the suggestions they consider but do not explicitly use this information in their decision making. Their decision making is based on the criteria described previously. Research recommendations from systematic reviews could be most valuable, because they are most clearly focused at earlier stages of prioritization and represent genuine gaps in knowledge. Conversely, the proportion of potential priorities identified through the widespread consultation could have declined because the research questions were relatively poorly focused at the outset. Furthermore, generation of vignettes in these areas may have subsequently revealed that knowledge gaps had been filled. Alternatively, advisory panel members may use the source of the suggestion as an implicit criterion to prioritize. Further work is required to explore the relative contributions of features of the suggestion itself and the response of expert advisers to the source.

The NHS is not unique in its experience of identifying, prioritizing, and commissioning HTAs. A survey conducted in 1995 identified HTA programs in 24 countries (8). Information on the identification and prioritization processes used by other HTA programs has been published. Of those programs that have published information on their processes, the majority appear to use a consultation of health professionals or experts as their only source of research suggestions, and authors of a pilot survey of 27 HTA agencies concluded that few agencies use an explicit process for determining priorities (7).

For example, the Basque Country HTA program relies on a survey of health professionals to identify suggestions to be evaluated. Suggestions are prioritized by using the Delphi method (4). The Health Insurance Council in the Netherlands consults experts to identify HTA suggestions. Experts are then asked to rank these suggestions on the basis of societal relevance. The Catalan Agency for HTA in Catalonia requests research suggestions from the Catalan Health Plan, the Scientific Committee of the Agency, and agency staff. The agency staff then rank priorities on the basis of predefined criteria (4).

The identification process of the U.S. Clinical Practice Advancement Center's Technology Assessment Program involves both surveying healthcare professionals and scanning the medical literature (10). Respondents to surveys are asked to prioritize their suggestions. Suggestions are then ranked on the basis of the number of nominations. Top-ranking suggestions are finally prioritized using selection criteria similar to those used by the NHS HTA Programme.

The NHS HTA Programme's experience of identification and prioritization can also be compared with that of another NHS R&D program. The national Primary and Secondary Care Interface R&D program consulted 242 organizations, including health services staff, statutory agencies, professional bodies, consumer groups, academic centers, and research organizations to identify statements of the most pressing issues (5). In addition, workshops were convened in three cities to explore problems at the interface of primary and secondary care. An overview was also consulted for issues. Three panel groups were convened to translate the statements of need into subjects suitable for research and to prioritize these subjects.

Although other HTA programs and one of the other NHS national R&D programs have published descriptions of the processes they have used to identify suggestions and priorities, this paper appears to be the first attempt to explore which sources tended to generate prioritized HTA research. A more detailed evaluation of the identification and

prioritization processes used by the many HTA programs worldwide could be of great benefit. It would aid the identification of sources that involve people who use, work, and manage healthcare systems and identify the most cost-effective assessments. Identifying the most cost-effective assessments is the main objective of all HTA programs (4).

In conclusion, data on the contribution and success rate of the four sources used in 1998 to identify HTA suggestions and priorities suggest that the widespread consultation provides the greatest contribution, but that research recommendations from systematic reviews had the highest success rate in being prioritized.

This study has assessed the value of different sources in terms of the proportion of suggestions prioritized by the program. Ideally, the HTA Programme's methods of prioritization would ensure that the most important research needs are prioritized, and therefore assessing value in this way would provide a definitive measure of the relative importance of each source. There is no gold standard by which we can assess the effectiveness of the methods used by the program, so we are unable to draw conclusions on its effectiveness, but it is unlikely to be perfect. Therefore, value should be evaluated in other ways. For instance, a source may generate a low yield of priorities but identify one research need that is of crucial importance to health services. To eliminate a source from the identification process solely because of a low yield could be potentially disastrous.

It should not be forgotten that these different sources serve other complementary purposes: the widespread consultation also serves a quasi-marketing purpose for the NHS HTA Programme; horizon scanning ensures that new, fast-emerging technologies are identified in a timely fashion; systematic reviews provide research recommendations that are clearly evidence-based; and reconsidered suggestions represent the accumulated wisdom of the program.

Future work for the NHS HTA Programme will involve assessing how the success rate of the widespread consultation could be increased and whether the success rate justifies the cost of using these sources. It will also be important to consider the backgrounds of the individuals responding to the widespread consultation (healthcare users, professionals, or managers), to identify more fruitful sources and develop more "user friendly" ways of approaching consultees for their research suggestions.

REFERENCES

1. Clark CM, Stevens AJ, Milne RI. The health technology assessment programme and its applications for clinical pharmacy. *Pharmaceutical J.* 1997;258:275-277.
2. Department of Health Research and Development Division. *Research for health.* London: Department of Health; 1993.
3. Development Evaluation Committee Web Site. Available at: http://www.hta.nhsweb.nhs.uk/rapidhta/.
4. Henshall C, Oortwijn W, Stevens A, Granados A, Banta D. Priority setting for health technology assessment: Theoretical considerations and practical approaches. *Int J Technol Assess in Health Care.* 1997;13:144-185.
5. Jones R, Lamont T, Haines A. Setting priorities for research and development in the NHS: A case study on the interface between primary and secondary care. *BMJ.* 1995;311:1076-1080.
6. Milne R, Stein K. The NHS R&D Health Technology Assessment programme. In: Baker MR and Kirk S, eds. *Research and development for the NHS: Evidence, evaluation, and effectiveness.* Oxford: Radcliffe Medical Press; 1998.
7. Oortwijn WJ. *Health technology assessment agencies and setting priorities in health technology assessment* [abstract]. Paper presented at the Annual Meeting of the International Society for Technology Assessment in Health Care, June 1996, San Francisco, CA. Available at: http://www.istahc.org.
8. Perry S, Thamer M. Health technology assessment: Decentralized and fragmented in the US compared to other countries. *Health Policy.* 1997;40:177-198.

9. Stevens A, Robert G, Gabbay J. Identifying new health care technologies in the United Kingdom. *Int J Technol Assess in Health Care*. 1997;13:59-67.

10. Wagner WB, Matuszewski KA. *Selection of technologies for assessment by a consortium of U.S. academic health centers* [abstract]. Paper presented at the Annual Meeting of the International Society for Technology Assessment in Health Care, June 1996, San Francisco, CA. Available at: http://www.istahc.org.