- Grimshaw JM, Russell IT. Effect of clinical guidelines on medical practice: A systematic review of rigorous evaluations. *Lancet*. 1993;342:1317-1322.
- Hailey D, Kristensen FB. The current status of the INAHTA project. Impact of HTA in Policy and Practice—The experiences of the INHTA Agencies. HTAi 2004 Pre-conference Workshop on Impact. Power Point Presentation. Available at: www.inahta.org/inahta\_web/.
- 17. Hivon M, Lehoux P, Denis JL, et al. The use of health technology assessment (HTA) in decision-making: The coresponsibility of users and producers? *Int J Technol Assess Health Care*. 2005;21:268-275.
- Jacob R, Mc Gregor M. Assessing the impact of health technology assessment. *Int J Technol Assess Health Care*. 1997;13:68-80.
- Lavis JN, Ross SE, Hurley JE, et al. Examining the role of health services research in public policy-making. *Milbank Q*. 2002;80:125-154.
- 20. Lavis JN, Robertson D, Woodside JM, et al. How can research organizations more effectively transfer research knowledge to decision makers? *Milbank Q*. 2003;81:221-248.
- 21. Lomas J. Postcript: Understanding evidence-based decision-making—or why keyboards are irrational. In: Lemieux-Charles L, Champagne F, eds. *Using knowledge and evidence in health care: Multidisciplinary perspectives*. Toronto: University of Toronto Press; 2004: 258 p.
- Luce BR, Brown RE. The use of technology assessment by hospitals, health maintenance organizations, and third-party payers in the United-States. *Int J Technol Assess Health Care*. 1995;11:79-92.
- 23. Montague T. Patients first-closing the health care gap in Canada. Canada: John Wiley & Sons Canada Ltd; 2004.
- Murphy E, Dingwall R, Greatbatch D, Parker S, Watson P. Qualitative research methods in health technology assessment: A review of the literature. *Health Technol Assess*. 1998;2:1-274.
- Ross SE, Lavis JN, Rodriguez C, et al. Partnership experiences: Involving decision-makers in the research process. *Health Serv Res Policy*. 2003;8:26-34.

## Commentary

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Battista has written a thoughtful and timely challenge to the field of health technology assessment (HTA). As the author points out, HTA is changing and evolving. One of the greatest challenges is that HTA now seems firmly established in a number of countries, and is being looked to more and more for the "answers." We accept and endorse Battista's central thesis, and essentially all of his critical questions, including his ideas about future research topics. We hope to evoke further thoughts in the reader and perhaps stimulate other responses, either private and public.

It seems to us that Battista's most important point is that bodies of knowledge outside medical sciences, epidemiology, and economics have not been much drawn on in HTA. There has been increasing attention to the need for better ethical analysis (7) and impact on hospitals and organization of care in general (2;9), but little serious drawing into HTA insights from other fields. That remains a critical challenge for the future.

#### **MACHINE FOCUS?**

Our first area of comment concerns Battista's statement that the first phase of HTA concerned machines, focusing on technical performance. This is a small point in the overall thesis of the paper, but it is important to us, who authored two of the first HTAs, both concerned with computed tomography (CT) scanning (8;10). In these assessments, and in all the other assessment of machine-dominated technology from that period that we are aware of, the focus was primarily on efficacy and, to a large extent, economic impacts. Technical aspects, including safety, played a small part in these assessments.

It seems to us that the focus in the early assessments instead was on large, capital intensive technologies and eventually on pharmaceuticals (3). Early examples of topics for HTAs also included procedures, such as coronary artery bypass surgery. Again, the focus was on questions of efficacy and costs.

Furthermore, the focus shifted fairly rapidly from "medical technologies" to "health care technologies." An early assessment concerned the efficacy of psychotherapy (1). This trend has continued almost to the present, with, for example, preoperative routines, diagnosis and treatment of back pain, stroke, hypertension, prostate cancer, depression, chronic pain, smoking cessation, community intervention programs to prevent cardiovascular disease, the patient-doctor relationship, evidence based nursing and evidence based physiotherapy (11).

Another way of looking at this evolution is that early assessments concerned what physicians did, hence the early term "medical technology." With time, the entire sweep of health care technology came under attention, as did those who provided those services, from allied health personnel to other professions and assessments even concerned areas of technology which might be almost wholly in the realm of "technique."

We completely agree with Battista that delivery modes are now gaining attention. In the 1970s, we knew relatively little about what worked to improve health. As more and more technologies were proven to the efficacious, the question was: why, then, is the population not gaining as much as it should from the growing panoply of efficacious technologies. For example, "tight control" of diabetes has proven to be highly efficacious, even in relatively mild cases. But why were these treatments not coming into universal use? Many have felt that this was because existing delivery systems were inadequate

and that dissemination of findings from research, as well as impact, have to be improved.

# THE "DIFFUSE GROUP OF MANAGERS AND HEALTH PROFESSIONALS"

It is, of course, possible to hypothesize that HTA has had marginal effects on the meso- and microlevels of the health care system; however, this remains to be verified, although there are some indications in this directions. A Dutch study based on an extensive survey of use of HTA at various levels of health care found that most of the respondents believed generally that HTA was useful at the national level, but also for administrative and clinical decisions (6). However, hospital directors stated that they found little value in HTA information. An important reason was lack of timeliness. The hospital directors, most of whom were physicians, stated that more "quick and dirty" studies were needed and that long HTA reports were generally not useful for their purposes.

Many attempts have been made to influence physician behavior through HTA-type information, notably the development of clinical guidelines. The results of these are generally disappointing. The most important reason may be that information in general has little impact, at least in the short run. Part of the strategy for assuring use of HTA is attention not only to dissemination, but to implementation of results, for example through linking to financial decisions. Thorsen and Makela present a list of possibilities for implementation (12).

HTA agencies have only recently begun to pay attention to the recipient of the information outside of defined centers of national or regional policy making. Research on dissemination has clearly shown that attention to the target group for a message is critical to success. The EUR-ASSESS program (5) reviewed some of the available information and concluded that "active information processing is selective. . . . Target groups will pay attention to messages that are perceived as relevant to them." That report produced an extensive list of examples of target groups in the health field.

At the macro level, HTA has been generally effectively linked to national health policies, such as regulation and, increasingly, payment. It seems quite logical that HTA programs especially target national level policy makers considering their usual source of support (4).

## **EVALUATING HTA PROGRAMS**

Efforts to evaluate HTA programs, as well as the impact of HTA studies, have been small and scattered. To an extent, this is understandable. Such evaluations are difficult and those that have been carried out are criticized by methodological purists for poor methods. However, randomized trials concerning the results of HTA or the organization of an HTA program are hardly feasible. At the same time, academics who have the expertise to help with designing studies are generally not deeply involved in HTA and therefore do not

necessarily understand the problems and difficulties of HTA agencies. This could be overcome with some efforts, but that would probably need to include new funding.

Furthermore, those working in HTA are busy from the large and growing demands on assessments. Evaluations tend to be seen as "academic," perhaps even irrelevant. The target audience is often highly visible, such as the Minister of Health, and if the Minister is satisfied, everyone is happy.

Concerning research on models of HTA, the models that served well up to the present need to be examined and perhaps changed. For example, experience shows that long term survival of HTA organization at the national ministry of health level need to be fairly insulated from actual political decisions. This is a difficult point, because the decisions that HTA exists to assist, are in fact largely political, as Battista also points out. Nonetheless, experience has shown that national HTA organizations, and probably regional public programs as well, must be above partisan politics. At a mundane level, acceptance by major political groupings helps to assure continued existence. When a national HTA body survives an important election, it is an indication that the organization has been useful to many parties. The International Network of Agencies for Health Technology Assessment (INAHTA) has recognized this problem in its requirements for membership. The main membership criterion is that member program must gain more than one-half of their support from public sources. More thought is needed beyond a call for evaluation of organizational models.

At the same time, it must be acknowledged that no two HTA agencies follow an identical organization model. Factors that explain differences in organization include sponsorship (e.g., ministry or health insurance), role of providers of care, scope of responsibilities and a cluster of social and cultural factors that no one has even attempted to characterize in the case of a single HTA agency that we are aware of.

A number of country and national HTA agencies have realized that sitting within the ministry of health or its equivalent is not a good long-term solution. In the long-run, it seems best that the program be independent, although subsisting mainly on public money, such as the Swedish Council for Health Care Technology Assessment (SBU) or the Catalan Agency for Health Technology Assessment (CAHTA). Still, the question remains, will these models that have worked so far continue to work in the future?

## **DISCUSSION**

Battista has provided a challenging agenda for future thought and action. It must be acknowledged that HTA agencies, like all other human institutions, are slow to change. However, as HTA continues to spread and, as a new European program for HTA is beginning to be implemented, the problems addressed in his article are becoming increasingly pressing. It is important for all those involved in HTA to consider such questions and to be involved in the discussion of such topics.

## Battista

Battista should be commended to giving all of us food for thought.

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#### **REFERENCES**

- Banta HD, Saxe L. Reimbursement for psychotherapy: Linking efficacy research and public policy making. *Am Psychol*. 1983;38:918-922.
- Banta D, Oortwijn W: Health Technology Assessment in the European Union. *Int J Technol Assess Health Care*. 2002;16:299-638.
- 3. Culyer AJ, Horisberger B, eds. *Economic and medical evaluation of health care technologies*. Heidelberg: Springer 1983.

- 4. EUR-ASSESS Project Subgroup on Methodology. *Int J Technol Assess Health Care*. 1997;13:186-219.
- 5. EUR-ASSESS Project Subgroup on Dissemination. *Int J Technol Assess Health Care*. 1997;13:220-286.
- Heuvel van den E, Wieringh R, Mulder H, et al. Het gebruik van MTA-kennis bij besluitvorming (The use of MTA knowledge in decision-making). Groningen: Noordelijk Cenrum vor Gezondheidsvraagstukken; 1994.
- Hofmann B. Towards a procedure for integrating moral issues in health technology assessment. *Int J Technol Assess Health Care*. 2005;21:312-318.
- 8. Jonsson E, Marke LA. CAT scanners: The Swedish experience. *Health Care Mgt Review*. 1977;2:37.
- Jonsson E, Banta HD, Henshall C, Sampriedo-Colom L. European Collaboration for Health Technology Assessment: Developing an assessment network. *Int J Technol Assess Health Care*. 2002;18: 213-455.
- 10. Office of Technology Assessment. *Policy implications of the computed tomography (CT) scanner*. Washington, DC: US Government Printing Office: 1978.
- 11. SBU reports at www.sbu.se
- 12. Thorsen T, Makela M. *Changing professional practice*. Copenhagen: Danish Institute for Health Services Research and Development: 1999.