

BRAZILIAN HEALTH TECHNOLOGY ASSESSMENT BULLETIN: EDITORIAL PROCESS, DISSEMINATION STRATEGIES, CRITICAL APPRAISAL, AND INITIAL IMPACT

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Objectives: This study reports on the Brazilian experience of developing a specialized bulletin, the Brazilian Health Technology Assessment Bulletin (BRATS), on health technology assessments (HTA).

Methods: The editorial process, format, and dissemination strategy of the publication are presented. A critical appraisal of the available issues was made using the checklist for HTA reports of the International Network of Agencies for Health Technology Assessment. The initial impact was estimated based on a retrospective observational measurement of the types of publications that cite the bulletin as a source of information. The publications citing BRATS were identified using Google Scholar.

Results: Since June 2008, fourteen issues of the bulletin have been produced. BRATS has not presented any significant limitation that would compromise generalizations of its results within the Brazilian context. The initial impact of the bulletin, however, has been small, which may be due to its exclusively electronic dissemination format and technical language. We found nine publications citing BRATS in Google Scholar.

Conclusions: It is hoped that the bulletin will promote the continuity of HTA actions among health-sector managers and professionals in Brazil.

Keywords: Biomedical technology assessment, Technical report, Brazil

In Brazil, since 1988, health has constituted a fundamental right, with direct implications for each individual's well-being, society's integrity, and the economy's productivity. The creation of the Brazilian Single Health System (*Sistema Único de Saúde*, SUS) aimed to promote, protect, and recover the population's health through a complex set of actions, institutions, regulations, and personnel (22).

During the past few decades, there has been notable growth in the provision of health technologies, along with advances in scientific knowledge, which has significantly impacted health-care expenditure, thereby compromising the sustainability of the SUS (5). Part of the problem relates to the incorporation of technologies that bring no benefit, uncertain benefit, or even harm to the population's health.

Health technology assessments (HTA) are tools for qualifying the managerial process, because they provide technical backing based on the best current scientific evidence, with the aim of forming the basis for healthcare decisions (13). Despite the efforts made in Brazil so far, certain barriers persist against effective implementation of HTA, such as inability to adapt scientific evidence to the context of decision making. In view of this scenario, the aims of the present study were to describe the editorial process, report on the dissemination strategy, put forth a critical appraisal, and estimate the initial impact of the Brazilian Health Technology Assessment Bulletin (*Boletim Brasileiro de Avaliação de Tecnologias em Saúde*, BRATS).

BRAZILIAN HEALTH TECHNOLOGY ASSESSMENT BULLETIN

BRATS is the result of joint efforts by institutions within the federal management of SUS—National Agency for Health

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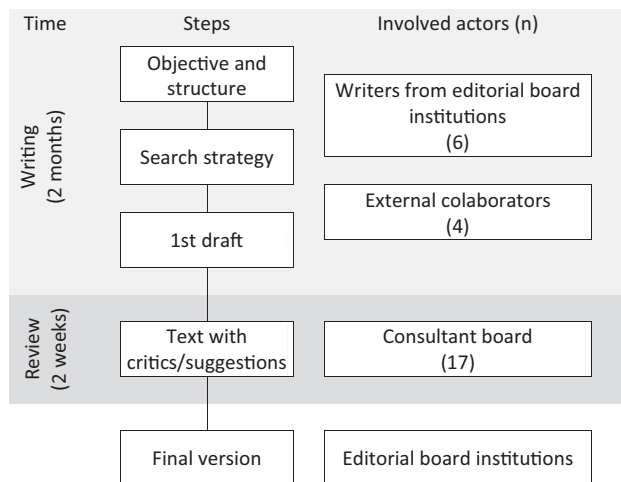


Figure 1. BRATS' editorial process with time and actors involved.

Surveillance; the National Agency for Supplementary Health; and the Secretariat of Science, Technology, and Strategic Inputs of the Ministry of Health—that recognized the need to adapt the scientific evidence to the context of decision-making among those involved in healthcare in Brazil (14). Managers, prescribers, and users are the primary audience of the bulletin. Particularly in Brazil, most decision makers have linguistic limitations to access the best available evidence and have no expertise to identify publication bias. Among the bulletin's objectives, the major challenge is to provide practical and easy-to-use information on health technologies to promote their use and to guide rational decisions regarding the use of these technologies. Although BRATS focuses on improving decisions relating to the individual use of technologies, it also focuses on political and regulatory matters involved in access to such materials.

To date, fourteen issues of BRATS have been produced that cover a variety of technological applications that address various health/medical conditions and purposes (Table 1). Depending on the topic, the BRATS issues have focused on either a single technology or a group of technologies for the same condition.

Editorial Process

The editorial process for BRATS is aimed at producing valid scientific information, presenting the current scientific consensus, and guiding readers in their decision-making process. For this reason, the editorial process differs from that of a scientific periodical (Figure 1).

The method adopted by the BRATS avoids potential conflicts of interest given that it is independent of health technology companies or their representatives. Unlike most medical periodicals, BRATS does not accept advertising.

BRATS is fully funded by involved institutions, through making their experts available during working hours, paying for travels to attend meetings, providing infrastructure for web

conferences and the organizational structure for the graphic layout and hosting on the institutions' Internet sites.

A new challenge is how to maintain long-term production (17). For this reason, following short- and medium-term planning, BRATS has been a quarterly publication since its fourth issue, thus enabling its readers to have up-to-date information on the rational use of health care technologies.

Dissemination Format and Strategy

Strategy adopted by BRATS is to use free-of-charge electronic media. In Brazil, this strategy is not ideal due to the limited, albeit growing, number of computers with Internet access (8). In view of the available resources and the vast territorial extent of Brazil, however, the editorial group considered electronic media to be the fastest and most efficient means of dissemination.

BRATS presentation comprises text in two columns with a variable number of words, in color, and allows tables and figures. The bulletin is composed of an "HTA" section in the strict sense of the term; a "highlights" section, which presents the principal HTA actions carried out in Brazil; and a "letters" section to record criticisms and suggestions (all received comments are published in full).

Compared with other studies produced by HTA agencies, the BRATS can be considered a rapid assessment (23), and it resembles the Canadian HTA rapid review report structure (19).

So far, more than 33,000 electronic signatures to receive new issues of BRATS by e-mail have been registered. Recently, through a Southern Common Market cooperation agreement, the bulletin's issues have begun to be translated into Spanish (Table 1). Because this publication became a member of the International Society of Drug Bulletins early in 2010 the issues are now also summarized in English.

Critical Appraisal

Starting from the checklist for HTA reports of the International Network of Agencies for Health Technology Assessment (INAHTA), a critical appraisal was conducted on the available issues of BRATS to ascertain the internal validity of the findings (15). In all the bulletins, the following items were found to be satisfactorily addressed: duly contact details for further information, authors' identification, contact with external reviewers, summaries in non-technical language, defined HTA questions, specified scope of the assessment, description of the technology assessed, discussion of the assessment findings, and suggestions for future actions. On the other hand, not all the issues presented the details of the sources of information used and the search strategy used in a reproducible manner, or the basis used for evaluating and interpreting the data selected. Only in the first issue, did the editorial group declare that the editorial process for the bulletin is free from potential conflicts of interest, which preferably should be registered in each issue. All issues but one took economic factors into consideration, in the form of a synthesis on cost-effectiveness/utility studies that

Table 1. Brazilian Bulletin for Health Technology Assessment: topics and technologies assessed.

Bulletin no.	No. of pages	English abstract available	Spanish version	Population/health problem	Intervention	Comparison	Outcomes
1	6	No	Yes	Adults with chronic B hepatitis	Entecavir	Lamivudine	Viral charge, hepatic inflammation, Knodell score, adverse effects
2	6	No	Yes	Adults with severe sepsis	Drotrecogin alfa activated plus intensive care	Placebo plus intensive care	Mortality, APACHE II score, adverse effects
3	6	No	Yes	Adults blood donors	Nucleic acid amplification techniques	Third and fourth generation screening assays	HIV and HCV detection, ICER
4	9	No	Yes	Detection for coronary artery disease	Multislice computer tomography	Conventional invasive coronary angiograph	Accuracy of diagnosis, safety
5	11	No	Yes	Adults with morbid obesity	Bariatric surgery (banding, gastropasty, gastric bypass)	Non-surgical interventions	Morbidity, mortality, adverse effects
6	13	No	Yes	Age-related macular degeneration	Angiogenesis inhibitors (bevacizumab, pegaptanib, ranibizumab)	Sham injection, photodynamic therapy, corticosteroids intravitreal injection	Visual acuity, ICER
7	11	No	Yes	Adults and children with iron overload associated with regular blood transfusions	Deferasirox	Deferoxamine, deferiprone	Hepatic iron concentration, serum ferritin, adverse effects
8	22	No	No	Adults with coronary disease	Drug-eluting stents (paclitaxel, sirolimus)	Bare metal stents	Mortality, myocardial infarction, revascularization, restenosis thrombosis
9	13	No	No	Cardiovascular disease in adults (coronary heart disease, stroke, transient ischemic attack)	Statins (atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin)	Placebo, standard therapy, no treatment	Mortality, myocardial infarction, revascularization, angina, ICER
10	15	No	No	Adults with diffuse large B-cell non-Hodgkins lymphoma	Rituximab	Chemotherapy	Overall survival, progression-free survival, response rate
11	14	Yes	No	Positron-emission tomography	Colorectal cancer	Ultrasound, computed tomography, magnetic resonance imaging	Accuracy and clinical value of PET regarding to diagnosis, staging and restaging, evaluation of treatment response, detection of recurrent colorectal cancer
12	12	Yes	No	Smoking cessation	Combination of health care professional counseling and medication	Medication alone or counseling alone	Abstinence rates
13	17	Yes	No	Diabetes mellitus type 1 in adults and children	Insulin glargine and insulin detemir	NPH insulin	Glycemic control, hypoglycemic episodes, ICER
14	18	Yes	No	Adults with obscure gastrointestinal bleeding and Crohn's disease	Capsule endoscopy for diagnosis of small bowel disease	Colonoscopy with ileoscopy, computed tomographic enteroclysis, computed tomographic enterography, computed tomography, double-balloon enteroscopy, enteroclysis, push enteroscopy, small bowel barium radiography, small bowel follow through	Incremental yield, adverse events

are available, along with estimates on the budget impact. Depending on the topic, the social implications were considered, the medical-legal consequences were discussed, the ethical effects had been weighed, and the perspective of the analysis was broadened to cover the impact on society.

Based on this assessment, BRATS has been fulfilling its aims and providing a coherent and transparent approach toward HTA reports (15). A few divergences found between the issues reflected differences relating to the problems examined, the policies currently in force, or the time and resources available for the assessment. In all the issues, readers can easily obtain information on the purpose of the assessment, the methods used, the assumptions made, and the conclusions reached.

Initial Impact

The impact of a publication on HTA depends on the target audience and its primary objective (13;16). In Brazil, if some changes occur in decision-making involving technologies discussed in the BRATS, it may be difficult or impossible to attribute this change to the bulletin. This may be more complex in the case of BRATS because of the attributions and responsibilities of the institutions involved in the editorial process.

To estimate the publication's initial impact, a retrospective observational study was made on the types of publications that used BRATS as a source of information, excluding self-citations (18). This search was conducted electronically using the search tool Google Scholar (16). We found nine references (1–4;7;9;10;20;21) that cited at least one issue of BRATS between 2008 and 2010. Despite the small number of citations found, it is very likely that there has been an intangible impact that is difficult to measure (18). The process of developing BRATS, together with the growth in HTA activities in Brazil (5), has strengthened the culture of using scientific evidence in the decision-making process, which has influenced the concepts and language use in policy deliberations (7;9).

DISCUSSION

In view of the inability of HTAs to adapt the available evidence to decision-making contexts (13), this study reported the Brazilian experience of developing a specialized bulletin on the rational use of technologies, directed toward managers, healthcare professionals, and users. BRATS is the result from persistent collaborative efforts, which has consolidated and enabled this strategy of promoting the use of scientific evidence.

The editorial process adopted in compiling BRATS aims to achieve greater credibility among its target audience through seeking impartiality and precision in the information presented. On the other hand, despite limited resources, other strategies for disseminating and language adaptation still need to be implemented (6;11;12).

In addition to the opportunities and challenges to be discussed by BRATS' editorial process, strategies to minimize the

bias need to be considered, to improve the trustworthiness and continuity of actions (6;11). The impact of developing BRATS and other Brazilian initiatives (5) has probably reflected positively on the SUS over recent years. (7;9)

It is hoped that the BRATS will provide continuity of dissemination of the HTA concept among managers and professionals in the health sectors and that choices within the SUS will increasingly be based on the best scientific evidence available.

CONFLICT OF INTEREST

The authors declare they have no conflicts of interest. Silva MT, Almeida RT, Gava CM, Santos VCC, Ronchini MAK, Mesquita AM, Elias FTS, and d'Oliveira ALP work or worked for institutions that produce BRATS and participated on the elaboration process of some of the bulletins. This activity does not represent any financial gain.

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