



8<sup>th</sup> annual  
meeting  
Rio de Janeiro 2011

HTAi

June 2011

# NEW APPROACH TO IDENTIFY NEW AND EMERGING TECHNOLOGIES: VALIDATED BIBLIOGRAPHIC SEARCH STRATEGY

Leonor Varela-Lema  
Janet Puñal-Riobóo  
Beatriz Casal-Acción

Galician Agency for Health Technology Assessment (avalia-t),  
Galician Ministry of Health, SPAIN

## Summary:

**Background:** early warning systems need to handle a wide range of sources to identify new and emerging health technologies. The process is laborious, time consuming and the efficacy is unknown. This work aims to present an approach to simplify identification and enable an earlier detection

**Objectives:** 1) present a bibliographic search strategy to systematically identify new and emerging technologies, 2) determine the efficacy in comparison to perusal of journals, 3) establish the effectiveness for early identification.

**Methods:** the search strategy consists of a combination of keywords that were identified by scanning 162 early warning systems reports (EuroScan). The search was run for 2009 and abstracts scanned to establish the efficacy to identify new and emerging technologies. For comparison purposes, all papers published during 2009 in six primary research journals and eight high impact surgery journals (impact factor greater than 4) were reviewed. Relevant technologies identified were backtracked to locate first publications and these results crosschecked with the search findings for that year.

**Results:** After limiting for irrelevant fields, the search yielded 6228 abstracts of potentially new and emerging technologies in 2009. Of these, 968 were classified as new or emerging. The scanning of 12061 journal papers identified 50 new and emerging technologies (Endoscopy=20; Annals of Surgery=16; Lancet=6; others= 8). Of these, 38 (76%) were located through the automatized search during the first two years of publication. Of the 12 technologies missed, only 4 were relevant losses: 5 were modifications of existing technologies and 3 corresponded to the first study published.

**Conclusions:** the search strategy proposed appears to be highly effective to identify relevant new and emerging technologies in the very early stages of adoption. The automatic running of the search in PubMed and Embase periodically can avoid scanning of multiple sources and save time and resources.