



eunethta

Information Management in HTA Organisations

Survey Report

**Kubesch N, Parada A, Moharra M, Estrada MD, Cortés M,
Espallargues M on behalf of Work Package 8, EUnetHTA project**

**Catalan Agency for Health Technology Assessment and Research (CAHTA)
Barcelona, Spain**

May 2008



**Agència d'Avaluació
de Tecnologia i Recerca Mèdiques**

CATALAN AGENCY FOR HEALTH TECHNOLOGY ASSESSMENT AND RESEARCH

Please cite this document as follows:

Kubesch N, Parada A, Moharra M, Estrada MD, Cortés M; Espallargues M on behalf of Work Package 8, EUnetHTA project. Information Management in HTA Organisations. Survey Report. Barcelona (Spain): Catalan Agency for Health Technology Assessment and Research. Catalan Health Service. Department of Health. Autonomous Government of Catalonia; May 2008.

© Catalan Agency for Health Technology Assessment and Research. The Agency holds the copyright to this document. No part of this publication may be reproduced, stored or transmitted in any way or by any procedure without the express prior permission of the copyright owner.

Acknowledgements

This study was undertaken within the framework of the EUnetHTA project, which has been supported by a grant from the European Commission (Grant agreement 2005110 project 790621). The sole responsibility for the content of this publication lies with the authors and the European Commission is not responsible for any use that may be made of the information contained therein.

The authors gratefully acknowledge the assistance of colleague Cristian Tebé for his statistical support, and thank the organisations that participated in this study. Special thanks to Juan Antonio Blasco, Liza Chan, Antonio Hernández Torres, Antonio Romero, María Sobrido for their comments on the pilot survey and Leigh-Ann Topfer and Iñaki Gutiérrez Ibarluzea also for reviewing the report.

ABSTRACT

Information Management in HTA Organisations

Kubesch N; Parada A; Moharra M; Estrada MD; Cortés M; Espallargues M
Catalan Agency for Health Technology Assessment and Research, Spain

Objective: To determine the current state of development, the processes and resources used by information units in HTA organisations, and to describe the characteristics of HTA information services staff.

Methods: A cross-sectional survey by means of a semi-structured questionnaire that was sent via e-mail to information specialists at 137 HTA organisations worldwide.

Results: The response rate was 22.9%; 74.2% of the respondents reported having personnel dedicated to HTA information services. Although their main work task was bibliographic searches, the information specialists also undertook various other complex responsibilities. About half (52.1%) of the organisations had up to two professionals for information management tasks (Mean: 4.39, SD: 4.52). Most organisations (78.1%) employed professionals educated in information science (mainly at a Master's degree level, 56.5%), and also personnel with a background in health sciences (34.8%). The majority (69.6%) of the staff attended training in evidence-based medicine and systematic reviews. All respondents cited the HTA Database, Medline / PubMed, and The Cochrane Library as key information sources. The use of standardized methods for work processes was common (69.9%).

Conclusions: Most HTA organizations have professionals dedicated to information management. These information specialists contribute throughout the development of the HTA, and often beyond its completion in dissemination activities. Knowledge in information science, along with subject knowledge, appears to be indispensable for the fulfilment of their work. Despite the small sample size in this survey it offers some preliminary information which may serve as a guide for establishing or improving HTA information management systems.

INDEX

INTRODUCTION.....	6
OBJECTIVES.....	11
METHODS	12
RESULTS.....	15
Response Rate and Sample Characteristics	15
Structure and Organisational Data.....	16
Professional and Academic Background of the Staff.....	18
Managing Information Resources	23
Methods and Procedures for Managing Information for HTA.....	26
Training and Research Activities	28
DISCUSSION.....	30
CONCLUSIONS	37
REFERENCES.....	39
Appendix 1. The Questionnaire.....	41
Appendix 2. Responding Organisations	55

LIST OF TABLES

Table 1. The questionnaire.....	13
Table 2. Main work areas or tasks of the information unit / library	17
Table 3. Size of the organisation by number of staff ¹	18
Table 4. Professionals in information management.....	18
Table 5. Proportion of information specialists to the total number of staff.....	19
Table 6. Highest level of formal education of personnel in information units.....	20
Table 7. Contractual situation of the staff and number of workers	20
Table 8. Number of staff and corresponding years of work experience as information specialists.....	21
Table 9. Number of staff and corresponding years of work experience as information specialists in health technology assessment.....	21
Table 10. Subject of training for information specialists	22
Table 11. Information sources used for health technology assessment.....	23
Table 12. Databases regularly accessed by information specialists	24
Table 13. Access to journals	24
Table 14. Approach to new topics.....	26
Table 15. Frequent tasks beyond literature searches.....	28
Table 16. Participation in specific research on information science.....	29

INTRODUCTION

Health technology assessment (HTA) is based on the “systematic evaluation of properties, effects and/or impacts of the health care technology”.¹ The information available forms the basis for any HTA.^{2,3} HTA is the “synthesis of many pieces of information from many different sources,² such as scientific papers from a variety of biomedical bibliographic databases, as well as unpublished or “grey literature”. This implies that information retrieval plays a crucial role in the development of HTA reports. The identification, retrieval, and optimal management of the information is a key process that allows the HTA organisation to accomplish its mission successfully.

In small HTA units or organisations the affiliated investigators may conduct their own searches of information, whereas in larger organisations with information units dedicated staff are responsible for the performance of tasks related to information management.

Information specialists can facilitate the effective performance of HTA through a range of support for the project investigators. The specialists contribute expertise on data sources, literature search techniques, and information management, and may also support the dissemination of HTA products and their findings.⁴ Moreover, the information specialists are responsible for the comprehensiveness, consistency, reproducibility, and transparency of the literature search. Unlike information brokers and librarians who may only be involved in conducting the literature search, the information specialist participates as part of the scientific team and optimizes the assessment’s search strategy.⁵

To perform these multifaceted tasks information specialists need to understand the characteristics of various databases, know how to design complex search strategies and develop filters for special research questions, be aware of the reliability (weaknesses or strengths) of published search filters, and familiar with the use of software tools for managing bibliographic references. An understanding of epidemiology and statistics is also necessary, as the information specialist may

be involved in the critical appraisal of published clinical research. Assistance in the dissemination of HTA products, such as through the work of a webmaster, and the management of an institutional repository or library, also require extensive computer literacy.⁵

The Medical Library Association (MLA) regards the continuing development of health information science research as “the key to evidence-based information practice”.⁶ However, studies in this area are limited and focus mainly on the competencies of health information specialists, rather than on the processes and resources of such units.

In 2005, Watson conducted an online survey of academic health sciences librarians in Canada to explore their perceptions about the importance of the information specialist having subject knowledge.⁷ This study also gathered data about the educational background and the years of experience of information specialists, and on their pattern of continuing education. Most respondents in this study (93.3%) believed that having subject knowledge was “very important” or “somewhat important” though, 70% of respondents considered holding a degree in health science “not very” or “not at all” important.

The state of expert searching in the institutions of Medical Library Association (MLA) members was described in a 2005 study by Host and Funk.⁸ The study examined the perceived value of searching skills to the institution, how health science librarians maintained and improved their searching skills, and how searching services were promoted or structured within the institution. Their survey suggested that health science librarians see their role in searching as particularly valuable for answering questions about treatment options and in providing an educational service.

The role of information specialists in the systematic review process was examined by Beverly et al., in 2003.⁹ Ten possible roles were identified: as project leader, project manager, literature searcher, reference manager, document supplier, critical appraiser, data extractor, data synthesizer, report writer and disseminator. A further role noted in the paper was that of a primary researcher.

In a 2005 study, Harris used an observational case study to define the librarian's role in the systematic review process.¹⁰ This study revealed the importance of involving skilled experts in searching the health science literature. The study concluded that the librarian plays a crucial role in systematic reviews. The librarian (or information specialist) must interact with the project investigators to develop the terms required for a comprehensive search strategy. Further, they act as an organizer and analyzer because the librarian must effectively manage the project's information sources and the archival process.

Knowledge of the present state of information management services in HTA, the professionals who work in this area, the information sources they use, and the practices they employ can contribute to the establishment of a standard framework for this work. This could assist new HTA organisations or those with limited formalization of information services for HTA.

Previous research has focused on information management in health sciences rather than on HTA information management. In particular, the management of information for HTA and the resources used has been insufficiently considered. This should be a prerequisite for the development of an efficient model for HTA information units.

EUnetHTA

Earlier consecutive projects commissioned by the European Union to improve the coordination of HTA activities at European and international levels have not explicitly considered information management for HTA, either. The **EUR-ASSESS project (1994-1997)** disclosed that an efficient system for sharing information and exchanging experiences among those involved in HTA across Europe was needed.¹¹ The **HTA-Europe project (1997-1999)** explored this issue further and emphasized the need for the European Commission's assistance in the establishment of HTA coordinating structures.¹² Similarly, the **ECHTA/ECAHI (European Collaboration for Health Technology Assessment / European Collaboration for Health Interventions) project, 1999-2001)** concluded that

HTA has become “a political priority and there is an urgent need for establishing a sustainable European network on HTA”.¹³

The current **EUnetHTA (European network for Health Technology Assessment) project (2006-2008)**, which is also funded by the European Union, is based on the work of the previous European initiatives. Its purpose is to establish an effective and sustainable European network for health technology assessment that connects national HTA agencies, research institutions and health ministries to ensure an effective exchange of information and support to policy decisions by Member States. The aims are expected to be achieved through eight separately managed work packages (WPs).¹⁴

Workpackage 8 (WP8) of the EUnetHTA project, aims to develop appropriate support systems for HTA capacity building in countries with limited institutionalization of HTA. WP8 has two practical goals: to supply a handbook with practical guidance on building HTA capacity, and to deliver a “White Paper” describing key factors for managing HTA information and knowledge efficiently. It will provide guidance on how to identify, retrieve and manage HTA information and on the development of HTA information and communication strategies.

Work on WP8 has involved a literature review and meetings with HTA experts and stakeholders. In addition, two separate international surveys were conducted: one addressed to the directors of HTA organisations and another addressed to the information units of HTA organisations. The latter was intended to fill the above mentioned gaps in research on HTA information management. The survey results from the survey of information units form the basis of this report.

OBJECTIVES

To describe the current state of development, and the processes and resources used in HTA information management and the characteristics of personnel involved in HTA information services worldwide.

METHODS

For the purpose of this study a cross-sectional study design was used. A semi-structured questionnaire was addressed to 137 potential HTA organisations worldwide. Organisations were selected from sources such as: the directories of EUnetHTA partners¹⁴ and INAHTA members¹⁵, HTA agency or program websites,¹⁶ a report on the *Overview of the Implementation of Activities Related to Evidence Based Practice in a Broad Representation of World Health Organisation-Collaborating Centres*;¹⁷ the *Review of International Health Technology Assessment*,¹⁸ sixteen papers published from an international HTA survey edited by Banta and Oortwijn in 2000,¹⁹ and the members list of the Information Resources Sub-Group of the Health Technology Assessment International (HTAi) association.²⁰ Duplicate entries (due to agency name changes, and English and national language agency names) were removed. The Internet was also used to find the agencies' homepages, further contact data, and for verification of their involvement in HTA.

Any organisation, regardless its location or financial profile (for profit / not-for profit) mentioned in one of the above sources was included if it appeared to be engaged in HTA. The organisation was classified as to whether it was affiliated to EUnetHTA or INAHTA, or any indication of HTA engagement was mentioned on its website or in its publications. However, organisations without an e-mail address to which the questionnaire could be sent were excluded.

The questionnaire was developed by the authors of this study, and included an expert in information management. No survey Instruments from previous studies that could be used as the basis for this survey were found. The questionnaire consisted of 38 items (see Appendix 1) and a filter question asking whether the organisation had (or did not have) an information unit or personnel who were working as information specialists. This was defined as staff who dedicate most of their time to searching and managing information and documents required for HTA reports, for example, searching bibliographic databases, managing references, maintaining a library or dealing with information providers for managing library

subscriptions. Respondents who declared being involved in HTA information services were invited to complete the survey. Those who answered that they were not involved in HTA information services were asked to return the questionnaire along with their contact details. The questionnaire was intended to be filled out by the information specialist or by the head of the information unit (in cases where there were several persons involved in information management). The participants were assured that their survey responses would be kept strictly confidential. Data published from the survey would be anonymous and would not identify any individual organisation.

The 38 questions were divided into five sections. The contents of each section are shown in Table 1.

Table 1. The questionnaire

SECTION	NUMBER OF QUESTIONS *	CONTENT
Structure and organisational data	4 (2)	Tasks, competencies and resources of the unit
Staff data: professional and academic background	9 (0)	Number and profiles of the personnel
Managing information resources available at the organisation	9 (1)	Availability and use of databases and information resources
Methods and procedures for managing information for HTA	4 (1)	Approaches and tools for information retrieval
Training and research activities	8 (0)	Training of the information specialists and their involvement in research, and collaboration with other units

* The figures in brackets present the respective number of open-ended questions.

A pilot survey was conducted in October 2006. Questionnaires were sent to information specialists at five Spanish and two Canadian HTA agencies. Four organisations (two Canadian and two Spanish) returned the pilot version of the questionnaire along with their comments concerning the survey instrument (these related to format, wording and content). Participants' comments were considered

and modifications were made (for example, correcting spelling mistakes and rephrasing some questions). One response option in a question asking about the professional background of the information units' staff was removed. Because these changes were minor, the organisations that participated in the pilot test were not asked to complete the final survey questionnaire again. Thus, the completed questionnaires received from the pilot test were included in the final data analysis.

The final version of the questionnaire, in a Word document, was sent out in January 2007 via e-mail.

Follow-up e-mail reminders were sent out between January and March 2007 (two waves to the previously used e-mail addresses) and later a further wave where we endeavoured to address the e-mail reminders personally to the attention of the information specialists in charge of HTA information services.

Standard descriptive analyses were conducted to characterize the organisations. The analysis of the response rate was considered by geographical region and by country. The statistical analysis was conducted using SPSS 15.0 for Windows. The relationship between the total number of staff and the number of the information specialists was examined. An analysis of frequencies was performed for categorical variables and an analysis of central tendencies was conducted for numerical data. Questions 18 (partly), 37, and 38 were excluded from the statistical analysis because of the high number of missing values. Overall less than 50% of the respondents addressed these questions. Additional information provided in the sections: "Others, please specify" were considered for the verification of the data, in particular for verifying the number of personnel. The content of each response to an open-ended question was investigated separately through an iterative process of coding and analysis of the coded text.

RESULTS

Response Rate and Sample Characteristics

Thirty-one responses were received from 15 countries. This represents 22.6% of the total sample (137 organisations).

By continent the responses were from Europe (25), Asia (1), North America (3), South America (1) and Australia (1). By country the responses were from: Australia (1), Austria (3), Canada (3), Chile (1), Denmark (1), Finland (1), Germany (3), Israel (1), Malaysia (1), Netherlands (1), Poland (1), Romania (1), Spain (5), Sweden (2), and UK (6).

From the 31 responses, eight (25.8%) were excluded from the analysis either because the respondents answered no to the filter question asking if they had personnel or a unit dedicated to information management activities, or if they declared they were not involved in HTA. Thus, the results presented in this report are based on the remaining 23 questionnaires of HTA with information management services. Nineteen of them were from Europe, one from Asia, two from North America, and one from South America.

Fifteen of those organisations that have HTA information services are member of the International Network of Agencies for Health Technology Assessment (INAHTA); two INAHTA members are among those organisations who declared not having personnel or a unit dedicated to information management activities.

Structure and Organisational Data

Role of the information unit:

The majority of the respondents to the open-question (87%) described the role of the information unit, service or library within the organisation as supporting the HTA development processes by providing and managing information and giving advice on search strategies. Six (26.1%) information specialists reported that they were also active in the dissemination of HTA products, partly through their involvement in maintaining the organisation's website. Two organisations (8.7%) mentioned involvement in teaching and educational activities in their areas of specialty (information retrieval and dissemination).

Direction of the information unit:

Seventeen participants (73.9%) responded that their information unit reports to the director of their organisation, or to the director of a larger organisation to which the HTA information unit is affiliated. Six participants mentioned either the "Assistant Director", the "Associate Director", the "Corporate Board", the "Clinical and Public Health Directorate", or the "Business Development Manager". One participant stated besides the Director, they report to the scientific staff.

Main activities:

All 23 respondents (100%) described the principal work task of the information unit was the performance of bibliographic database searches. Other common activities were acquisitions or subscriptions to information resources (82.6%), answering specific information questions (78.3%), and managing project archives (69.6%). Webmaster tasks were reported by 39.1% of the respondents (see Table 2).

Table 2. Main work areas or tasks of the information unit / library

	n (units)	%
Bibliographic searches in databases	23	100
Acquisition or subscription to information resources	19	82.6
Answering specific information questions	18	78.3
Document managing/archiving	16	69.6
Cataloguing/indexing	15	65.2
Webmasters (Internet/extranet)	9	39.1

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

Budget for the information unit:

Most information specialists (56.5%) reported not having a specific budget for information management, whereas 43.5 % of the respondents did have a separate budget.

Library facilities:

The majority of the information specialists (82.6%) reported having library facilities for the information unit. These ranged from 4 square metres to 1000 square metres in size. In 50% of these units library space was less than 30 square metres.

Professional and Academic Background of the Staff

Total number of staff in the organisation:

Small organisations were the most frequent in the sample (56.5%). In total, the number of staff working in the organisation ranged from 3 to 467 persons, though 50% of the organisations employed less than 35 workers (Mean: 94.91; SD 139.49), (Table 3).

Table 3. Size of the organisation by number of staff¹

	n (organisations)	%
Micro (< 10 workers)	2	8.7
Small (10- 49 workers)	13	56.5
Medium (50- 249 workers)	5	21.7
Large (> 250 workers)	3	13.0

¹ Categorization according to the definition of small and medium-sized enterprises of the European Commission

Number of professionals dedicated to information management:

The number of information specialists working in the organisation ranged from 1 to 15 persons (Median: 2). About a third of the organisations (30.4%) had two professionals dedicated to the management of scientific information. This was the most frequent number of information staff, followed by 21.7% of organisations that had one person (Mean: 4.39; SD 4.52), (Table 4).

Table 4. Professionals in information management

Number of workers	n (organisations)	%
1	5	21.7
2	7	30.4
3	4	17.4
4	2	8.7
9	1	4.3
11	1	4.3
13	1	4.3
14	1	4.3
15	1	4.3

Relation of total number of staff in the organisation and information specialists:

The proportion of information specialists to total staff in the organisation ranged from 1% to 66.7%, though in 50% of the organisations less than 6.7% of the staff were information specialists (Mean: 10.9; SD 13.5), (Table 5).

Table 5. Proportion of information specialists to the total number of staff

Size	HTA Organisation	Number of total workers	Number of information specialists	% of information specialists in the organisation
Micro	A	3	2	66.67
	B	6	1	16.67
Small	C	10	1	10.00
	D	13	1	7.69
	E	15	1	6.67
	F	17	3	17.65
	G	22	2	9.09
	H	22	4	18.18
	I	23	3	13.04
	J	30	2	6.67
	K	32	2	6.25
	L	35	2	5.71
	M	35	2	5.71
	N	45	3	6.67
	O	48	11	22.92
	Medium	P	50	1
Q		60	3	5.00
R		90	2	2.22
S		120	14	11.67
T		240	15	6.25
Large	U	400	4	1.00
	V	400	9	2.25
	W	467	13	2.78

Background of personnel in information management:

Most organisations (78.1%) employed between 1 and 14 (Mode=1) professionals with a background in information science / library sciences. And, between one and two (Mode=1) professionals with a background in health sciences were working in 34.8% of the information units.

With respect to the highest level of formal education of personnel working in these information units the data revealed that the most frequent (56.5%) educational level was a Master's degree. The number of personnel holding a Master's degree ranged from 1-14 (Median=1). Whereas, 34.8% of the information units had

between one and four staff members without formal information sciences training (Table 6).

Table 6. Highest level of formal education of personnel in information units

	Number of units		Number of workers		
	n	%	Range ¹	Mean ¹ (SD)	Median ¹
Master's degree	13	56.5	1-14	3.5 (4.63)	1
No formal training	8	34.8	1-4	1.8 (1.03)	1.5
College diploma	7	30.4	1-2	1.1 (0.37)	1
Certificate program	5	21.7	1-3	1.6 (0.89)	1
Undergraduate degree	4	17.4	1-2	1.5 (0.57)	1.5
Doctorate	2	8.7	1-2	1.5 (0.70)	1.5
<i>Missing</i>	<i>1</i>	<i>4.3</i>	-	-	-

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

¹ Statistical analysis excluded 0.

Terms of employment:

Most respondents (69.6%) had between 1 and 14 full time permanent staff working in information services. Permanent staff working part time were employed in 30.4% of the organisations (Table 7).

Table 7. Contractual situation of the staff and number of workers

	Number of units		Number of workers		
	n	%	Range ¹	Mean ¹ (SD)	Median ¹
Full time permanent staff	16	69.6	1-14	4.4 (4.27)	3
Part time permanent staff	7	30.4	1-4	2.0 (1.15)	2
Temporary	4	17.4	1-4	1.8 (4.27)	1
Student	2	8.7	1 worker	-	-
Fellowship	1	4.3	1 worker	-	-
Visiting researcher	1	4.3	1 worker	-	-
Freelance	0	-	-	-	-
<i>Missing</i>	<i>3</i>	<i>13.0</i>	-	-	-

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

¹ Statistical analysis excluded 0

Work experience:

The work experience most frequently reported of both information specialists (56.5%) and information specialists dedicated to HTA (65.2%), was “between six and ten years” with an average of 1.9 persons in this category (Median: 1), (Table 8, Table 9). The highest average number of information specialists was in the category of work experience over 16 years (Mean: 2.1, Median: 2), (Table 8).

Table 8. Number of staff and corresponding years of work experience as information specialists

	Number of units		Number of workers		
	n	%	Range ¹	Mean ¹ (SD)	Median ¹
Less than one year	4	17.4	1-3	1.7 (0.95)	1.5
1-5 years	12	52.2	1-6	1.8 (1.46)	1
6-10 years	13	56.5	1-6	1.9 (1.55)	1
11-15 years	11	47.8	1-4	1.5 (0.93)	1
Over 16 years	8	34.8	1-4	2.1 (0.99)	2
Missing	1	4.3	-	-	-

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

¹ Statistical analysis excluded 0.

Most information units (60.9%) had specialists with between 6 to 10 years work experience in HTA information science in their teams, even though the average number of these specialists was higher in the categories of 1-5 and highest of all in the category of 11-15 years work experience, (Table 9).

Table 9. Number of staff and corresponding years of work experience as information specialists in health technology assessment

	Number of units		Number of workers		
	n	%	Range ¹	Mean ¹ (SD)	Median ¹
Less than one year	6	26.1	1-4	1.6 (1.21)	1
1-5 years	10	43.5	1-12	3.0 (3.65)	1.5
6-10 years	14	60.9	1-8	1.9 (1.88)	1
11-15 years	4	17.4	1-11	3.7 (4.85)	2
Over 16 years	1	4.3	-	-	-
Missing	2	8.7	-	-	-

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

¹ Statistical analysis excluded 0.

Training of information specialists:

The staff of 78.3% of the information units received specific training. Information specialists were predominately trained in subjects such as “evidence-based medicine” (69.6%), and “systematic reviews / meta-analysis” (69.6%), followed by “clinical practice guidelines” in 43.5% of the information units, (Table 10).

Table 10. Subject of training for information specialists

	n (units)	%
Evidence-based medicine	16	69.6
Systematic reviews / meta-analysis	16	69.6
Clinical practice guidelines	10	43.5
Statistics	8	34.8
Economic evaluation	8	34.8
Qualitative research	6	26.1
Public health/ epidemiology	6	26.1

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

Managing Information Resources

Sources of information:

The most used sources of information for assessing health technologies were health bibliographic databases (100%), HTA reports (95.7%), Internet search engines (95.7%), and grey literature (91.3%). Monographs or books (60.9%) and clinical administrative databases (21.7%) were less used (Table 11).

Table 11. Information sources used for health technology assessment

	n (units)	%
Health bibliographic databases	23	100
HTA reports	22	95.7
Search engines	22	95.7
Grey literature	21	91.3
Monographs or books	14	60.9
Clinical administrative databases	5	21.7

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

Databases:

All respondents (100%) reported regularly using MEDLINE / PubMed, The Cochrane Library, and the Health Technology Assessment Database. The Database of Abstracts of Reviews of Effects (DARE) was regularly accessed by 95.7% of the information specialists. Further relevant databases were the NHS Economic Evaluation Database (NHS EED), which was reportedly used by 87.0% of the information specialists, followed by EMBASE, which was used by 73.9% of respondents, (Table 12).

Table 12. Databases regularly accessed by information specialists

	n (units)	%
Health Technology Assessment (HTA) Database	23	100
MEDLINE /PubMed	23	100
The Cochrane Library	23	100
Database of Abstracts of Reviews of Effects (DARE)	22	95.7
NHS Economic Evaluation Database (NHS EED)	20	87.0
EMBASE	17	73.9
CINAHL	15	65.2
Web of Knowledge (ISI)	15	65.2
PsycInfo	11	47.8
Local or regional databases	11	47.8
BIOSIS	8	34.8

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

Relevancy of the databases:

The information specialists ranked MEDLINE / PubMed (34.8%) and the HTA Database (21.7%) as the most relevant databases, followed by The HTA Database (17.4%) and DARE (13.0%). Note: responses to this questions had missing values between 43.5 and 47.8%.

Journals:

The number of journals that could be accessed by the information units varied from 2 - 2000. The average number of journals that could be accessed was 459 journals (SD± 645.48), although 50% of the units had access to less than 122.5 journals. Most information specialists (34.8%) reported having access to 10-100 journals, and 21.6% had access to 101-500 journals, (Table 13).

Table 13. Access to journals

Number of journals	n (units)	%
<10	1	4.3
10-100	8	34.8
101-500	5	21.6
501-1000	2	8.7
>1000	2	8.7
Missing	5	21.7

About 26.1% of the units had access to journals due to individual subscriptions, 21.7% subscribed to aggregators and a further 26.1% of the units accessed information resources from universities or academic collections. However, most of

the respondents (52.2%) accessed journals through a combination of the above-mentioned options. The selection of journal subscriptions was not regulated by an explicit policy in most of the units (60.9%).

Other resources for HTA use:

Participants reported having access to “other” resources for health technology assessments, for example, Clinical Evidence (used by 52.2%), the Tripdatabase (34.8%), “secondary journals” (34.8%), UpToDate (17.4%), and to HTA reports from organisations such as the ECRI Institute or HAYES Inc. (13%).

Use of bibliographic management software:

Eighty-seven percent (n=20) of the information units reported using software tools for publishing and managing bibliographies. Of these units, 70% reported using Reference Manager, which was thus the most commonly used bibliographic management software, followed by EndNote (25% of users). RefWorks was another software program mentioned by 10% of the users of bibliographic management software.

Use of contents management software:

Participants were asked to report on the type of content management software they use if they performed webmaster tasks. Most respondents declared that they were not responsible for webmaster tasks (65.2%). The remainder (34.8%) reported using various types of content management software such as DOM&M, Dreamweaver, Frontpage, iFair, MySQL Database, PLone, Interwoven, and Zope and Plone.

Methods and Procedures for Managing Information for HTA

Approaches to new topics:

All participants answered the open-ended question asking about the information specialist's approach (basic steps) to new topics. Processes reported are described in the following table, (Table 14).

Table 14. Approach to new topics

Interviews	<p style="text-align: center;">FIRST STEP:</p> <p>Many information specialists (12) reported approaching new topics with an initial interview or discussion. Interviewees were the "requester", "client", "researcher", "researcher who is leading the project", "HTA team members", "experts", and "specialist and petitioner". Reasons given were "to clarify background information and the actual needs – what are the key questions requiring responses?", "to clarify and to define the topic", "to discuss the topic area" (U4), and "to discuss the types of search required".</p> <p style="text-align: center;">SECOND STEP:</p> <p>Four information specialists conduct interviews secondarily, for instance with "professionals related to the technology or disease", with "the reviewer to know the most aspects relevant for the project" or else with the "researcher" in order to "specify together the search question and define (...) [the] search task".</p> <p style="text-align: center;">CONTINUOUS CONTACT:</p> <p>Continuous contact was mentioned by two participants: One participant declared "collaboration between information specialist and topic expert is continuous and crucial" (F1) and another information specialist reported hold "regularly feed-back with client" (N1).</p>
Basic search	<p>Most participants (15) declared a basic search is part of their approach in order to provide background information, gain familiarization with the subject and insight into the available research.</p> <p>Five specialists performed a basic search in the very beginning when approaching a new topic. Six participants conduct the basic search as a second step. Four specialists reported that they perform a basic search as a third or later step in their processes. One respondent performs the basic search as the foundation for drafting the preliminary search strategy.</p>
Formulation of the research question	<p>Two specialists reported starting the process with the formulation of the question in the very beginning. Five participants reported building the research question after interviews with the researcher. Two respondents formulate the question together with the researcher, following a basic search.</p>
Refinement of the search strategy	<p>The formulation of the "formal search" was done after the basic information retrieval, in agreement with researchers. Next steps involved the search for further data and establishing relevant inclusion and exclusion criteria. Three specialists reported using standards for developing the search.</p>
Types of information and sources	<p>Two information specialists described the types of information they search for. These included: information on books, monographs, and websites as well as "grey sources". Another participant described searching for "previously known articles, reference lists in existing systematic and non-systematic reviews", and in databases while "using alternative search terms".</p> <p>Two specialists reported searching in databases such as MEDLINE and Embase, and TRIPdatabase, HTA, DARE, and "Merck for clinical info".</p>

Standardization of the work process:

For the standardization of the work process of the information unit 60.9% of the respondents reported having internal manuals or protocols covering daily tasks. Strategic plans and tutorials were used by 30.4% of the respondents for managing information. Standard methods to search for scientific evidence, such as protocols or methodological filters for databases, were used by 87% of the respondents. Standardized methods for reporting the search strategies for the HTA reports were used by 69.6% of the information units.

Alerts:

To keep the literature search up-to-date throughout the course of the assessment, alert information systems were used by 56.5% of the units, of which 46.1% used the system MY NCBI-PubMed. Other alert systems reported being in use were: "Blogs", "Dialog alerts", "Doctor's guide", "Fisterra", "Google alerts", "HTA databases", "ISI SCI alerts", "MEDLINE", "Medscape", "Medynet", "Ovid AutoAlerts", "PubMed", and "RSS-feeds".

Training and Research Activities

Training courses:

Most of the information specialists (73.9%) taught training courses, workshops or academic courses, many of them on their own initiative (29.4%). However, most information specialists (73.9%) had not participated as a teacher in distance learning courses offered through Internet.

Authorship and acknowledgement in HTA reports:

Collaboration on HTA reports as “authors”, “co-authors”, or as “contributors” was reported by 65.2% of the information specialists. But, over half (52.2%) of the participants also declared that their contribution as an information specialist was not explicitly acknowledged in the HTA reports.

Tasks beyond literature searches:

Writing reports (34.8%), leading projects (17.4%), critical appraisal (17.4%), data extraction (17.4%), and dissemination (17.4%) were other tasks frequently undertaken by information specialists, beyond literature searches and document supply, (Table 15).

Table 15. Frequent tasks beyond literature searches

	n (units)	%
Report writer	8	34.8
Data extractor	4	17.4
Project leader	4	17.4
Critical appraisal	4	17.4
Data disseminator	4	17.4
Data synthesizer	3	13.0

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

Many information specialists participated in research on information science, such as the evaluation of specific resources (56.5%) or database selection and comparison (43.5 %), (Table 16).

Table 16. Participation in specific research on information science

	n (units)	%
Evaluation of specific resources	13	56.5
Database selection and comparison	10	43.5
Developing catalogues/lists/directories of information resources	8	34.8
Developing/testing search filters	8	34.8
Database indexing/retrieval	2	8.7
Bibliometric studies	1	4.3

Note: Percentages do not sum to 100% due to multiple responses possible for each respondent.

Collaboration and cooperation with other information units:

About 87% of the respondents reported collaborating at a national level, and 73.9% were involved in collaborations at an international level. Health Technology Assessment International (HTAi) and the International Network of Agencies for Health Technology Assessment (INAHTA) were the vehicles for collaboration most commonly mentioned.

Attendance at meetings and conferences:

Most information specialists (73.9%) reported that they regularly attend meetings or conferences, such as those of Health Technology Assessment International (HTAi) or the European Association for Health Information and Libraries (EAHIL).

DISCUSSION

This descriptive study adds quantitative and qualitative data on the personnel involved in information management in health technology assessment, the resources and the processes used for information management in HTA organisations. The information presented may assist in establishing information management systems in new HTA organisations, or serve as a guide for the improvement of processes in existing units. It may also serve as an evidence basis for the development of standards for HTA information units.

One third of the responding HTA organisations reported that they did not have personnel or a unit dedicated to HTA information management. It seems that most organisations involved in HTA have specialists dedicated to information management. However, two of the organisations who did not have personnel or a unit dedicated to information management activities are members of INAHTA. Assuming that INAHTA member organisations are mainly active in HTA, the information management model that these agencies follow remains to be explored.

Response Rate

Only about 23% of organisations responded to the questionnaire. Among the non-responders there might be a high percentage of HTA organisations without information specialists that did not respond because they didn't consider themselves as an appropriate recipient. This could also apply to very small units, for instance those consisting of only one or two information specialists, and to those who dedicate only a part of their time to HTA searches, or those units in organisations that have only an indirect or more tenuous involvement in HTA. Another explanation for the low response rate might be due to confusion on the part of the recipients, because this questionnaire was administered only a short time after an earlier survey, within the framework of the same work package, which sought to obtain data on the characteristics of HTA organisations.

Human Resources

Most organisations with information services were small (10-49 workers). Micro-sized organisations (<10 workers) represented the minority. The total number of staff ranged from 3 to 467 persons, however, organisations with a relatively high number of staff were most likely involved in other areas of research aside from HTA.

Data revealed a wide range in the number of staff dedicated to information management tasks. The data suggest that micro and small size organisations had an higher proportion of HTA information staff than medium and large organisations. However, due to the small number of organisation in each category, this association should be considered preliminary. The proportion of HTA information service staff in the organisation as well as the criteria that influence the decision on how many information specialists will be employed for HTA information management remain to be explored further. When interpreting the data it must be noted that some of the HTA units in the sample refer to an affiliated library that is part of a bigger organisation within which the HTA unit operates. Presumably, the staff of such libraries or information units serve various areas in addition to HTA.

With respect to the background of the information specialists it should be noted that most units had at least one professional educated in information science, in contrast to those with a background in health sciences who worked in only about one third of the organisations. In most units at least one (and up to 14) staff members held a Master's degree in information science. It is also noteworthy that about one third of the staff working in such information units had not received formal training in information science. This data shows that the information management in HTA organisations is predominately performed by qualified information specialists trained in HTA, in cooperation with health scientists who have learned information science methods and techniques.

Role and Tasks

The importance of involving information specialists in HTA is confirmed by the results showing that most organisations employed full time staff for information management. Although many information units did not have their own budget, most reported to the director of the HTA organisation – an indication of the value placed on the HTA information units.

Information specialists were involved in a variety of complex tasks, a result that is congruent with the findings of Beverley et al. (2003).⁹ The information specialists themselves saw their role as supporting the HTA process through the provision and management of information, and also through teaching and assisting with dissemination of the products, for example, through webmaster tasks, an emerging sideline for information specialists. However, the technical knowledge that is required for this position may constitute a barrier for information specialists, which may explain why this activity was undertaken in only 39.1% of the participating units. The kind of professionals in HTA organisations who are performing webmaster tasks requires further exploration.

The results show that many information specialists participate as authors, co-authors or contributors to HTA reports. It is not yet clear to what extent a background in health sciences influences the tasks performed by information specialists. Possibly, the health science professionals perform dual roles that involve both information management tasks and research activities.

One of the main characteristics of information specialists in HTA organisations is that their primary activity is conducting literature searches in bibliographic databases, a task that was reported by all respondents. Indexing documents, interlibrary loans, acquiring publications or managing subscriptions comprise the main activities of medical librarians working in hospital or university libraries. Less involvement in indexing or cataloguing documents is likely explained by the fact that HTA information specialists primarily focus on the identification and retrieval of current information for specific HTA projects, rather than on creating a library collection.

Information Resources and Management

With regard to the number of journals that the HTA information units can access it is noteworthy that there was a wide range reported (from 2 – 2000). Higher numbers of accessible journals are most likely the result of having access to the resources of a larger organisation, such as a university or academic centre. Half of the units had access to a maximum 123 journals. The number of accessible journals did not appear to be based on the requirements for conducting assessments, but seems to be determined by other factors, such as affiliation with another organisation and its resources. This was supported by the fact that most HTA units did not have explicit policies or guidance for managing their journal subscriptions.

The use of bibliographic reference management tools is widespread in HTA information units. Reference Manager is the most commonly used bibliographic management software. In contrast, contents management software for website maintenance was used by only a few units, probably because only a minority of information specialists are involved in webmaster tasks. Various content management software programs were used and each of the eight respondents to this question had chosen a different tool. This is likely due to the many commercial content management packages available, whereas, there are relatively few bibliographic management applications on the market.

Also noteworthy is that many units have standardized work processes, in particular for the searches for scientific evidence, and also for documenting the search strategies used in the HTA reports. Internal manuals or protocols, methodological filters for the search of scientific evidence, and strategic plans and training tutorials were also considered important for the optimization of HTA information services work. This result is contrary to that of Holst and Funk (2005) who found that less than 2% of the responding institutions in their sample had best practice guidelines for searching.⁸

Training and Education

The data revealed that most HTA information specialists had postgraduate training in information science, although roughly one third of the personnel in information units did not have formal training in this field. This number might correlate with the 34.7% of the professionals working in information management who had a background in health sciences. That fact suggests that the skills and abilities for a position in information sciences can be gained in postgraduate courses or through the attendance of specific courses. However, further investigation is needed to determine if their education and training were completed before the professionals were in post, or while they were on the job. Further details on the educational backgrounds and specific degrees of the information specialists might be helpful, but these data were not collected by the survey.

It was very common for organisations to support the training of their information specialists in HTA processes and methods. This is compatible with the findings of the study by Watson (2005) who concluded that subject knowledge was important for information specialists, and highlighted the importance of continuing education.⁷ Evidence-based medicine, systematic reviews / meta-analysis, and clinical practice guidelines were the subjects of the courses that the information specialists most frequently attended. This is not surprising as literature searching, a classic task for an information specialist, and critically appraising the quality of information are fundamental parts of the technology assessment process.

Limitations

This study had several limitations. First, the sample used in this survey may not be representative of HTA agencies worldwide. When merging the information from various sources to compile the list of HTA organisations, we found that some countries were less represented in our sample, in particular Eastern Europe and Asia. However, that could also mean that HTA is less institutionalised in these regions. Finding the organisations and obtaining contact details when the organisation did not have a website, or had one that was not available in English, Spanish, French, Dutch or German constituted a barrier.

Another limitation concerned the low total number of responses (n=31) which restricted the statistical analysis. Most of the findings are based on only 23 completed questionnaires, a fact that should be kept in mind when considering the conclusions. A particular limitation might be the non-responses that may bias the validity of study results. This is highly relevant when the response rate is low. Organisations that do not have an information unit or information specialist might not have responded to the survey. The same could apply to those organisations that have only a small number of information specialists and to those organisations where the personnel dedicate only a part of their time to the performance of HTA information services. It is unclear if HTA organisations that do have information units, especially those that have full time permanent staff working exclusively in information management, are overrepresented in this sample. This might lead to an overestimation of the number of personnel in such units, and possibly to an underestimation of the number of those educated primarily in health sciences who dedicate part of their time to information management tasks. For some countries none of the organisations in our sample responded to the survey. Consequently, Argentina, Belgium, Brazil, China, France, Greece, Hungary, Ireland, Italy, Japan, Lithuania, Luxembourg, Mexico, New Zealand, Norway, South Africa, Switzerland, and the USA are not represented in the results. With respect to the USA it should be mentioned that several of the organisations were private institutions that may have less interest in participating, especially since it was a European study. When examining the entire sample of non-responding organisations it appears that, apart from 18 non-responding INAHTA member organisations, many might not be

involved in HTA or their involvement could be considered marginal. This could explain their non-response. Furthermore, the members' list of the HTAi Information Resources sub-group²⁰ that was used for compiling the sample, was not up-to-date. Some information specialists named in the list had changed jobs or had given up their work. Thus, it is possible that some information specialists in this group did not receive our questionnaire. A follow-up with organisations that did not respond is recommended for getting further information on their characteristics and to determine to what extent the present sample may be biased in terms of representativeness.

In addition, the questions related to their work experience in information science may have been misunderstood by some respondents. It is possible that respondents referred sometimes to the entire organisation instead of only to the information unit. Although data were discarded in obvious cases, the informative value of these questions should be regarded with caution.

A further limitation is that, the content analysis of the open questions was conducted by only one researcher. Thus the objectivity of the qualitative results may be limited.

Further research should be undertaken to gather more detailed information on the organisation in which the information unit is situated, in order to get a more complete picture of the context and scope of work in HTA information units. The current lack of contextual information could be considered another deficiency of this study.

CONCLUSIONS

- The results of this survey suggest that it is common for HTA organisations to have an information unit or dedicated personnel who spend most of their time on the performance of information management tasks.
- Most of the information units were subordinate to the director of the HTA organisation, which indicates that these units play a highly regarded role in the organisation.
- The data suggests that for a hypothetical HTA organisation with a total staff of 50, approximately three information specialists might be needed; or in the case of an HTA organisation with up to 15 staff members, approximately one information specialist might be sufficient.
- Gaining HTA subject knowledge appears to be essential for the fulfilment of the information specialist's tasks, since it was common for information specialists to attend courses in evidence-based medicine, systematic reviews / meta-analysis, and clinical practice guidelines. This also suggests that these subjects may not be sufficiently considered in courses of study in information science nor in health sciences, which were the educational backgrounds most represented in this sample.
- Most of the information units had professionals with a background in information sciences, most frequently at a Masters' degree level. This indicates the importance of having a knowledge of information science for the fulfilment of the work tasks. This is supported by the fact that most of the personnel in information units were information specialists with many years of work experience (mainly from six to ten years). The remaining information services staff were mainly professionals with backgrounds in health science.
- The diversity of the tasks that information specialists perform at various stages of the HTA process, and the fact that some were in continuous contact with the project researchers, indicates the significant role and the valuable contribution of information specialists throughout the HTA development process, and often afterwards through their involvement in dissemination.

- The survey results indicate that information specialists strive for the standardization of work processes in HTA information units as illustrated by the common use of a variety of instruments for the standardization of processes. The information specialists also often used internal protocols or manuals, and the use of standard methods for the literature search was frequently reported.
- It can also be concluded that the Health Technology Assessment Database, MEDLINE / PubMed, and The Cochrane Library are considered the key resources for information for HTAs. Although a variety of health related bibliographic databases are used these three are the ones used most often and ranked as highly relevant.

REFERENCES

- 1) INAHTA Health Technology Assessment (HTA) Glossary. [cited 2007 Dec 19]. Available from: <http://www.inahta.org/HTA/Glossary>
- 2) Chan L, Collins S, Dennett L, Varney J. Health Technology Assessment on the Net: A Guide to Internet Sources of Information. Edmonton (Canada): Institute of Health Economics (IHE); 2007. [cited 2007 Nov 8]. Available from: http://www.ihe.ca/documents/ihe/publications/reports/IHE_Report_Health_Technology_Assessment_on_the_Net_Jun_2007.pdf
- 3) Kristensen FB, Horder M, Bo P, editors. Health Technology Assessment Handbook. Copenhagen (Denmark): Danish Institute for Health Technology Assessment; 2001. Available from: <http://www.sst.dk/Applikationer/cemtv/publikationer/docs/Metodehaandbog/MethodologyHandbook180601.pdf> *A new edition of this handbook is supposed to be released this year, according to the DACEHTA website.
- 4) Hailey D. Elements of Effectiveness for Health Technology Assessment Programs, HTA initiative No.9. Edmonton (Canada): Alberta Heritage Foundation for Medical Research (AHFMR); 2003. [cited 2007 Nov 8]. Available from: <http://www.ihe.ca/documents/hta/HTA-FR9.pdf>
- 5) Guba B. The role of the information specialist in the context of Health Technology Assessment [poster]. EAHIL- European Association for Health Information and Libraries Workshop in Krakow, Poland, 12th-15th of September 2007. [cited 2007 Nov 7]. Available from: <http://www.bm.cmj.krakow.pl/eahil/proceedings/poster/Guba%20Beate.pdf>
- 6) Medical Library Association: Using Scientific Evidence Policy Statement. [rev. 05 April 2005]. [cited 2007 Aug 7]. Available from: <http://www.mlanet.org/research/science4.html>
- 7) Watson EM. Subject knowledge in the health sciences library: an online survey of Canadian academic sciences librarians. J Med Libr Assoc. 2005;63(4):459-66. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1250322>
- 8) Host R, Funk C. State of the art of expert searching: results of a Medical Library Association survey. J Med Libr Assoc. 2005;93(1):45-52.
- 9) Beverly CA, Booth A, Bath PA. The role of the information specialist in the systematic review process: a health information case study. Health Info Libr J. 2003;20(2):65-74.
- 10) Harris MR. The librarian's role in the systematic review process: a case study. J Med Libr Assoc. 2005;93(1):81-7.
- 11) Henshall C, Oortwijn W, Stevens A, Granados A, Banta D. Priority setting for health technology assessment. Report from the EUR-ASSESS Project. Int J Technol Assess Health Care. 1997;13(2):144-85.
- 12) Banta D, Oortwijn W. Health Technology Assessment in the European Union. Int J Technol Assess Health Care. 2000;16:626-35.
- 13) Jonsson E, Banta HD, Henshall C, Sampietro-Colom L. Summary report of the ECHTA/ECAHI project. European Collaboration for Health Technology Assessment/Assessment of Health Interventions. Int J Technol Assess Health Care. 2002 Spring;18(2):218-37.
- 14) European network for Health Technology Assessment (EUnetHTA), [web site]. [cited 2007 Oct 23]. Available from: <http://www.eunetha.net/>
- 15) INAHTA Health Technology Assessment (HTA) [web site]. [cited 2007 Dec 19]. Available from: <http://www.inahta.org>

- 16) Homepage of HTA.de [web site]. [cited 2006 Jun 3]. Available from: <http://www.health-technology-assessment.de>
- 17) Estrada MD, Serra-Sutton V, Rajmil L. Overview of the implementation of the activities related to evidence based practice in a broad representation of World Health Organisation-Collaborating Centres. Barcelona (Spain): Catalan Agency for Health Technology Assessment and Research; 2002.
- 18) Mears R, Taylor R, Littlejohns P, Dillon A. Review of International Health Technology Assessment. London (United Kingdom): National Institute for Clinical Excellence; 2000.
- 19) Banta D, Oortwijn W. Health technology assessment in the European Union. *Int J Technol Assess Health Care*. 2000;16:626-35.
- 20) Member list of the Interest Sub-group on Information Resources of the Health Technology Assessment International (HTAi) scientific society. Edmonton (Canada): HTAi; n.d. (Access is restricted to members.)

Appendix 1. The Questionnaire

Before you start please read the following statement:

Your responses will only be used for aggregate survey analyses and we will treat them with the strictest confidentiality. They will only be used for the purpose for which you have provided it. Individual responses will not be disclosed to any other organisation or individual person. Data published with the final results will be anonymous, so they will not identify you or your organization.

Before you begin to complete this questionnaire, please, answer the following question:

Does your organization have an information unit or personnel who are working as information specialists? (*)

Yes

No

() By Information specialist we consider the personnel who dedicate most of their efforts and time to search and manage information and documents required to carry out health technology assessment reports (i.e. searching in bibliographic databases, managing references, maintaining a library or dealing with information providers to subscribe information resources for the organization among others).*

If NO, please complete only contact details of the questionnaire and return it to us.

If YES, please complete the questionnaire and return it to us.

VERY IMPORTANT. If more than one person is working as an information specialist, this question should be answered only by the head of the unit

Many thanks for your co-operation.

ID

(For internal use only)

1. Please provide your contact information below

Name of the organization:

Address:

City:

Province or State:

Country:

Postal or Zip code:

Telephone number:

Fax number:

Website:

Name of the person completing this questionnaire (First name and Last name):

Position or title

E-mail address

Section 1. Structure and organizational data

The following questions aim to obtain information about the characteristics of your organization and how it manages scientific information.

1. Which is the role of the information unit/service or library within your organization?

Please describe the mission and principal aims

--

2. In the organizational structure organization the information unit/service or library depends on direction from which corporate division (e.g. the director, etc.)

--

3. Which are the main work areas or tasks that the information unit/service or library undertakes? Please check all that are relevant for you.

<input type="checkbox"/> Answering specific information questions	<input type="checkbox"/> Bibliographic searches in databases	<input type="checkbox"/> Acquisition or subscription to information resources
<input type="checkbox"/> Cataloguing/indexing	<input type="checkbox"/> Document managing/archiving	<input type="checkbox"/> Webmasters (Internet/extranet)
Others (please specify):		

4. Does the information unit/service or library have a specific budget to manage?

<input type="checkbox"/> YES	<input type="checkbox"/> NO
------------------------------	-----------------------------

5. Does the information unit/service or library have library facilities?

<input type="checkbox"/> YES	<input type="checkbox"/> NO
------------------------------	-----------------------------

6. If yes, how many m² of floor space does it occupy?

Section 2. Staff data: professional and academic background

The following questions aim to obtain information about the characteristics of staff involved in the management of scientific information, as well as their professional and academic backgrounds.

7. How many people in total are working in your organization?

8. How many people are involved in your organization in scientific information management tasks?

9. Please give information about the professional background of the information unit/service or library staff and its respective number.

Write the number of people, for each condition, into the boxes (consider your staff as of first of June of 2006)

Information specialist/librarian	Health sciences professionals
Others (please specify): 	

10. Indicate the highest level of formal education in information science completed by the staff of the information unit/service or library

Write the number of people, for each condition, into the boxes (consider your staff as of June of 2006)

Certificate program	Undergraduate degree	College diploma
Master's degree	Doctorate	No formal training
Others. Please, specify		

11. Please, give information about the contractual situation of your staff.

Write in the boxes the number of people in the different situations (consider your staff as of June 2006)

Full time permanent staff	Part time permanent staff	Fellowship
Temporary	Free lance	Visiting researcher
Student		
Others (please specify):		

12. Indicate the number of people with the corresponding years of work experience as information specialists your team have.

Write the number of people, for each condition, into the boxes (consider your staff as of June 2006)

Less than one year	1-5 years	6-10 years
11-15 years	Over 16 years	

13. Indicate the number of people with the corresponding years of work experience as information specialists in health technology assessment your team have.

Write the number of people, for each condition, into the boxes (consider your staff as first of June 2006)

Less than one year	1-5 years	6-10 years
11-15 years	Over 16 years	

14. Did your staff receive specific training in health technology assessment processes and methods such as the following categories?

<input type="checkbox"/> Evidence-based medicine	<input type="checkbox"/> Systematic reviews/meta-analysis	<input type="checkbox"/> Clinical practice guidelines
<input type="checkbox"/> Statistics	<input type="checkbox"/> Public health/epidemiology	<input type="checkbox"/> Economic evaluation
<input type="checkbox"/> Qualitative research		
Others. Please specify		

15. Has this training been facilitated or encouraged by your organization?

<input type="checkbox"/> YES	<input type="checkbox"/> NO
If Yes, please, specify:	

Section 3. Managing information resources available at the organization.

The following questions aim to obtain information about how your organization is currently managing scientific information

16. Which information sources do you typically use for health technology assessment reports developed by your organization?

<input type="checkbox"/> Health bibliographic databases	<input type="checkbox"/> HTA reports	<input type="checkbox"/> Monographs or books
<input type="checkbox"/> Search engines	<input type="checkbox"/> Grey literature	<input type="checkbox"/> Clinical administrative databases
Others (please specify):		

17. Which bibliographic databases or compilations of them do you access regularly?

<input type="checkbox"/> BIOSIS	<input type="checkbox"/> CINAHL	<input type="checkbox"/> Database of Abstracts of Reviews of Effects (DARE)
<input type="checkbox"/> EMBASE	<input type="checkbox"/> Health Technology Assessment (HTA) Database	<input type="checkbox"/> NHS Economic Evaluation Database (NHS EED)
<input type="checkbox"/> MEDLINE/PubMed	<input type="checkbox"/> PsycINFO	<input type="checkbox"/> The Cochrane Library
<input type="checkbox"/> Web of Knowledge (ISI)	<input type="checkbox"/> Local or regional databases	
Others (please specify):		

18. Of the above databases, which of them do you consider more relevant and useful for searching scientific evidence according to your daily tasks (please, rank them from the most relevant (1) to the least relevant (5)).

1.	
2.	
3.	
4.	
5.	

19. How many journals can be accessed by your organization through a subscription agreement?

--

20. The journals that your organization can access are the result of:

<input type="checkbox"/> Managing individual subscriptions	<input type="checkbox"/> Managing subscriptions directly to aggregators (i.e. OVID, Proquest, ScienceDirect, etc.) from your organization
<input type="checkbox"/> Access to information resources from university / scientific or professional associations	<input type="checkbox"/> A combination of the previous choices
Others (please specify):	

21. Do you use an explicit policy to select the journal subscriptions that your organization purchase?

<input type="checkbox"/> NO
<input type="checkbox"/> YES (please specify):

22. Do you have subscriptions to other added value resources for health technology assessment?

<input type="checkbox"/> Clinical Evidence	<input type="checkbox"/> Up to Date
<input type="checkbox"/> TripDatabase	<input type="checkbox"/> Secondary journals (ACP Journal Club, Evidence-Based Medicine...)
<input type="checkbox"/> Special collections of HTA reports (i.e. ECRI, Hayes....)	
Others (please specify):	

23. Do you currently use software tools for publishing and managing bibliographies such as bibliographic management software (Reference Manager, Endnote, Procite...)?

<input type="checkbox"/> NO
<input type="checkbox"/> YES (If yes, which?)

24. If someone in your unit/service or library is performing tasks such as webmaster, please answer the following question: Which contents management system software are you using? (If your unit is not responsible of webmaster tasks please go to the next section).

--

Section 4. Methods and procedures for managing information for HTA

The following questions aim to obtain information about which methods and procedures you practice when managing information

25. How do you approach new topics before starting an information search. Please describe the basic steps you consider before starting the search process (e.g. interviews, searching of basic information...)

--

26. In order to standardise the work process in the information unit/service or library do you have specific procedures or materials such as...?

<input type="checkbox"/> Strategic plans	<input type="checkbox"/> Internal protocols or manuals	<input type="checkbox"/> Tutorials
<input type="checkbox"/> Others (please specify):		

27. Do you use standard methods to search scientific evidence for health technology assessment such as searching protocols (e.g. COSI) or methodological filters (“clinical queries” in Pubmed or Cochrane search strategies)?

<input type="checkbox"/> NO
<input type="checkbox"/> YES (please specify):

28. Do you use alerts to get automatic updates for new information (i.e. selective information diffusion systems such as MY NCBI-PubMed, RSS, etc.) in health databases?

<input type="checkbox"/> NO
<input type="checkbox"/> YES (please specify):

29. Do you use standard methods to report the strategies used in searching the evidence for the HTA reports? Please describe your methods.

<input type="checkbox"/> NO
<input type="checkbox"/> YES (lease specify):

Section 5. Training and research activities

The following questions aim to obtain information about your participation in activities to spread or increase the knowledge regarding information management in HTA

30. Does the information unit/service or library staff offer training courses, workshops or teach academic courses?

<input type="checkbox"/> NO	<input type="checkbox"/> YES
If yes,	
<input type="checkbox"/> By own initiative	<input type="checkbox"/> By request
Others (please specify):	

31. Have you or other participated as a teacher in distance learning courses through the Internet?

<input type="checkbox"/> NO	<input type="checkbox"/> YES
If yes (please specify):	

32. Are information specialists participating in HTA reports as authors or co-authors or as contributors?

<input type="checkbox"/> NO	<input type="checkbox"/> YES
If yes (please specify):	

33. Is the work of the information specialists explicitly acknowledged in the reports?

<input type="checkbox"/> NO	<input type="checkbox"/> YES
If yes (please specify):	

34. When your organization is developing an HTA report, do you participate in other tasks beyond literature searches and document retrieval? If yes, please check the three most relevant tasks you are most often involved in.

<input type="checkbox"/> Project leader	<input type="checkbox"/> Critical appraiser
<input type="checkbox"/> Data extractor	<input type="checkbox"/> Data synthesiser
<input type="checkbox"/> Report writer	<input type="checkbox"/> Data disseminator
Others. Please specify:	

35. Are the information specialists of your unit/service library participating in specific research on information science in health technology assessment?

<input type="checkbox"/> Database selection and comparison	<input type="checkbox"/> Evaluation of specific resources
<input type="checkbox"/> Developing/testing search filters	<input type="checkbox"/> Developing catalogues/lists/directories of information resources
<input type="checkbox"/> Database indexing/retrieval	<input type="checkbox"/> Bibliometric studies
Others. Please specify:	

36. Do the information specialists of your unit/service or library collaborate with other colleagues at other agencies? At which level?

<input type="checkbox"/> Local	<input type="checkbox"/> Regional
<input type="checkbox"/> National	<input type="checkbox"/> International

37. Are the information specialists of your unit members currently participating or collaborating actively in organisations or societies related to health technology assessment or information sciences? If so, please list the five most relevant ones.

1.	
2.	
3.	
4.	
5.	

38. Do the information specialists of your unit/service or library regularly attend meetings or conferences of information sciences associations?

<input type="checkbox"/> NO	<input type="checkbox"/> YES
If yes, please list the five most relevant ones	
1.	
2.	
3.	
4.	
5.	

Thank you very much for participating in this study. Please, answering the following three questions, which will help us to assess the questionnaire.

A. How many minutes did you spend completing in the questionnaire?

B. Do you think there are any important topics missing in the questionnaire?

C. Other comments or suggestions about the questionnaire.

If you have any questions regarding the completion of this questionnaire, please contact us at:

Antoni Parada

e-mail: tparada@aatrm.catsalut.net

Catalan Agency for Health Technology Assessment and Research

Recinte Parc Sanitari Pere Virgili

Esteve Terradas, 30, Edifici Mestral, 1a planta

08023 Barcelona

Tel: 34- 93 259 42 18

Fax: 34- 93 259 42 01

<http://www.aatrm.net>

Many thanks for taking the time to complete this questionnaire.

Appendix 2. Responding Organisations

Institution	Country	City
Australian Safety and Efficacy Register of New Interventional Procedures - Surgical (ASERNIP-S)	Australia	Stephney
Austrian Health Institute, Gesundheit Österreich GmbH (ÖBIG) ¹	Austria	Wien
Hauptverband der Österreichischen Sozialversicherungsträger, Evidence Based Healthcare (EBHVB)	Austria	Vienna
Ludwig Boltzmann Institute for Health Technology Assessment	Austria	Vienna
Alberta Heritage Foundation for Medical Research (AHFMR)	Canada	Edmonton
Canadian Agency for Drugs and Technologies in Health (CADTH)	Canada	Ottawa
WorkSafe BC, Evidence Based Practice Group, Clinical Services, Worker and Employer Services	Canada	Richmond
Unidad De Tecnologías De Salud, Ministerio De Salud De Chile (ETESA)	Chile	Santiago
Danish Centre for Health Technology Assessment (DACEHTA)	Denmark	Copenhagen
Finnish Office for Health Technology Assessment (FINOHTA)	Finland	Helsinki
German Agency for Quality in Medicine (AQuMed / AEZQ), Joint Institution of the German Medical Association and the National Association of the Statutory Health Insurance Physicians	Germany	Berlin
Institute for Social Medicine, Lübeck University	Germany	Lübeck
Research Centre for Biotechnology, Society and the Environment Hamburg University (FSP BIOGUM)	Germany	Hamburg
The Israeli Center for Technology Assessment in Health Care, The Gertner Institute for Epidemiology and Health Policy Research (ICTAHC)	Israel	Tel Hashomer
Ministry of Health, HTA Unit	Malaysia	Putrajaya
College voor Zorgverzekeringen (CVZ)	Netherlands	Diemen
Institute of Public Health, Jagiellonian University Medical College, Information Studies Department	Poland	Krakow
National School of Public Health and Health Services Management (SNSPMS)	Romania	Bucharest
Agencia de Evaluación de Tecnologías Sanitarias (AETS)	Spain	Madrid
Basque Office for Health Technology (OSTEBA)	Spain	Vitoria-Gazteiz
Catalan Agency for Health Technology Assessment and Research (CAHTA)	Spain	Barcelona
Galician Agency for Health Technology Assessment (AVALIA-T)	Spain	Santiago de Compostela
Lain Entralgo Agency (UETS)	Spain	Madrid
Center for Medical Technology Assessment, Linköping University (CMT)	Sweden	Linköping

Swedish Council on Technology Assessment in Health Care (SBU)	Sweden	Stockholm
Centre for Reviews and Dissemination, University of York (CRD)	UK	York
Health Services Research Unit (HSRU), University of Aberdeen	UK	Aberdeen
National Coordinating Centre for Health Technology Assessment (NCCHTA)	UK	Southampton
National Institute for Health and Clinical Excellence (NICE)	UK	London
UK Cochrane Centre ¹	UK	Oxford
West Midlands Health Technology Assessment Collaboration (WMHTAC), Dept of Public Health and Epidemiology, University of Birmingham	UK	Birmingham

¹ Response via e-mail, no questionnaire received