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# The contribution of the Central Library to Hospital-based Health Technology Assessment

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# Summary

- What is HB-HTA?
- HTA in Italy/San Matteo Hospital
- Library's contribution to HTA
- Conclusions



# HTA

Health technology assessment (HTA), plays an essential role in modern health care organizations by supporting evidence-based decision making not only in health care policy but also in practice.

The purpose of classic HTA is to promote/avoid the diffusion of a new health technology over a country or a region.

**research**



**decision-making**



# What is HB-HTA?

- The advancements in health care systems have raised worldwide the need for an HTA progressive decentralization
- The application of HTA methodologies in hospitals had increased significantly in recent years
- This kind of HTA ‘in context’ is called Hospital-based HTA (HB-HTA) or Mini-HTA



# What is HB-HTA?

The purpose of HB-HTA is to support the decision about the introduction of a technology in the hospital, improving the level of efficiency and effectiveness (micro-economic efficiency) as a key to improve the efficiency of the entire system (macro-economic efficiency).

Health technologies are evaluated 'in context'.



# HTA in Italy

- The first Italian experiences of HTA are born inside single hospitals and, lately, regional health care systems
- From the late 90s, the Italian Ministry of Health started several research project aimed at sharing HTA experiences
- In 2003, creation of an experimental HTA network (NI-HTA) between hospitals and regions that had developed special skills in this area



# HTA in Italy

The objectives of NI-HTA included the promotion of HTA in health care organizations and the definition of organizational models of HTA activities at different levels: national, regional and within individual hospitals.

Inside the network, the task of defining the organizational model at hospital level was given to **Policlinico San Matteo**, in collaboration with Policlinico Gemelli in Rome.





# San Matteo Hospital

The San Matteo Foundation of Pavia (founded in 1449) is a public Research Institute of National prominence:

- 1.250 beds
- 57.000 hospital admissions
- 2.300.000 outpatient clinic admissions
- In 2009, 548 articles published on journals with IF
- Total IF in 2009: 2884





# Central Library at San Matteo

- Main library of the hospital
- 4 people employed
- Main tasks: document delivery and searches in PubMed
- Only one librarian works (part time) on HTA



# HB-HTA at San Matteo

- **An incremental approach:**
  - 1999-2001: experimental San Matteo hospital HTA centre
  - 2002-2005: San Matteo is involved in the 'Regional commission for technology assessment'
  - 2003: San Matteo is involved in the feasibility study for a Regional permanent HTA committee
  - 2003-2005: San Matteo is a promoter of Italian Network of HTA
  - **2007: a permanent hospital HTA unit is created at San Matteo**



# HTA group at San Matteo

- physicians (Medical Director's staff)
- clinical engineers
- health economist
- clinical pharmacists
- physicist
- part time/consulting: other clinicians, epidemiologist, risk manager, nurse/technician, **librarian**



# HTA group at San Matteo

- **Annual plan of investments (prioritized)**
- **“Classic” HTA on emerging or research related technology**
- Needs not planned
- Assessed technologies:
  - Medical devices
  - Biomedical instrumentation
  - Medical/surgical procedures



# Request form (I)

- The Intranet website contains the ‘Technology Request Forms’ (or ‘pre-assessment forms’)
- There are three kinds of forms:
  - Purchase of new technology
  - Enhancement of already existing technologies
  - Substitution of obsolete technologies
- Similar to Danish Mini-HTA form

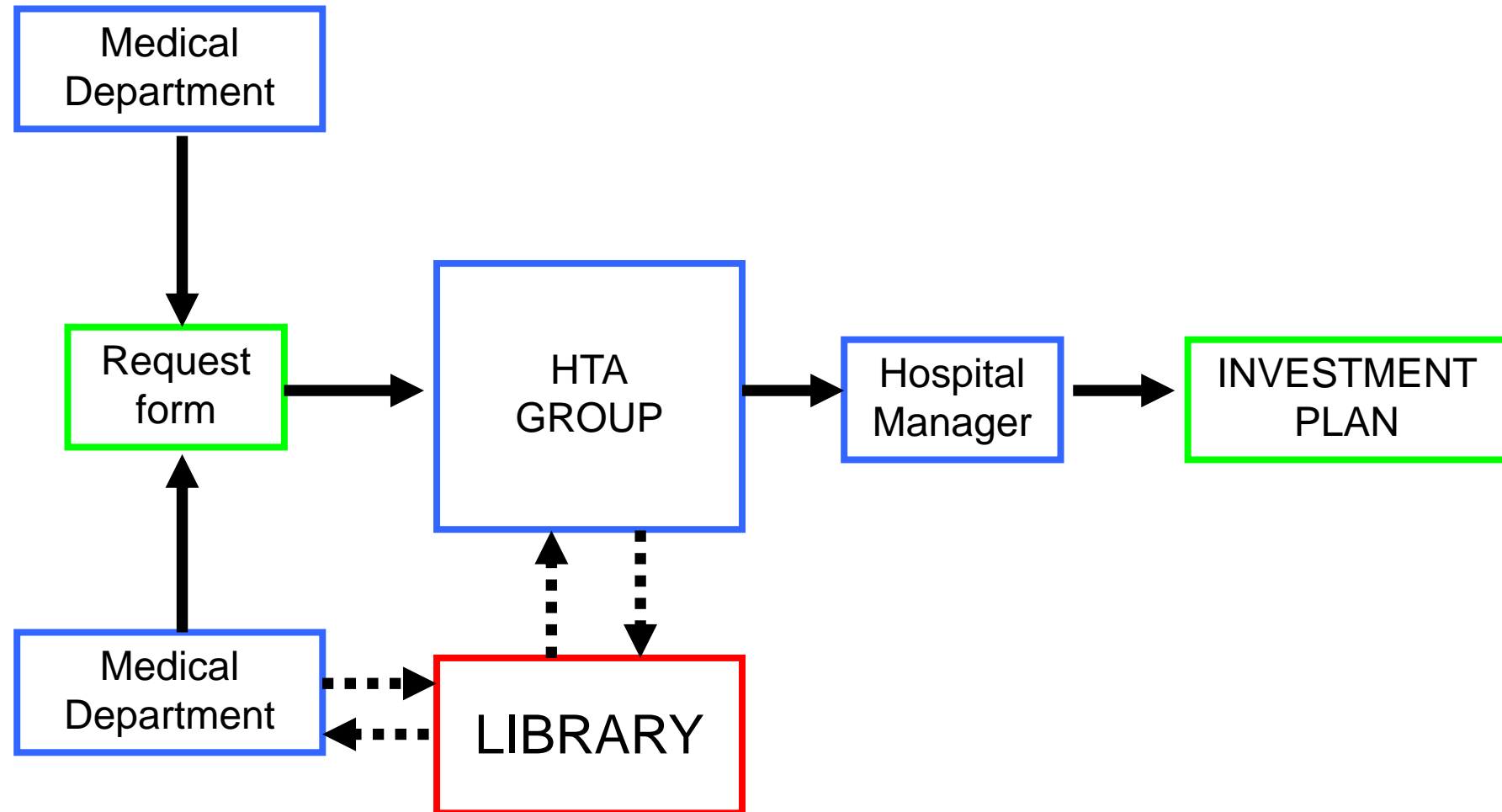


# Request form (II)

- The **pre-assessment form** includes these areas (**summary**):
  - **Technology**
    - Context of use and main technical/procedural characteristics
    - Innovation degree
  - **Appropriateness/effectiveness**
    - Evidences (literature, HTA reports, case studies, etc.)
    - Patients impacts
  - **Organizational impacts/Efficiency**
    - Human resources involved (new staff, training and new skills/competencies)
    - Layout and placing (hardware)
    - Workflows, interdependences with other units, etc.
  - **Cost analysis and budget impact**



# Flow chart





# Library support in training

- In order to give clinicians proper tools to address correct technology requests, training courses have been designed with library support.
- On-line tutorials (created by the library using Camtasia Studio 5<sup>TM</sup>) to guide physicians in filling in the forms.
- One short video for each kind of form published on the HTA group website.



# When to assess a new technology?

- The different types of requests made by San Matteo hospital departments can lead to different complexity of their evaluation.
- To assess in detail all request is impossible and would be also useless (economic and organizational impact of certain technologies are very limited).



# When to assess a new technology?

- The problem is to determine the criterion by which a request undergoes a full assessment by the HTA group or a simpler cost-analysis.
- Library's support is needed only for full assessments.

 **THRESHOLD?**





# When to assess a new technology?

## Cost Threshold:

The threshold for evaluation is established only for the economic impact, so technologies with a cost over the threshold (e.g. at Policlinico Gemelli €25.000) are fully evaluated, while for cheapest technologies a simplified procedure is adopted.



# When to assess a new technology?

At San Matteo the assessment threshold is not fixed:

- inexpensive technologies that imply a different organization of the activities are fully evaluated
- expensive technologies included in an usual organizational context (e.g. substitution) can be assessed by a simplified procedure
- for a highly innovative technology, many fields of the form are mandatory (including evidence)
- for technologies with low economic and organizational impact, the number of mandatory fields is reduced



# Examples (I)

## *Assessment of a Remote Magnetic Navigation System in interventional cardiology*

- the assessment involves an activity similar to that of HTA agencies
- analysis of efficacy, effectiveness and cost-effectiveness
- **support provided by the library is larger but in some ways easier**



# Examples (II)

## *Introduction of a system for remote reporting of electrocardiograms*

- analysis must include a number of variables highly dependent on the context
- variables not automatically derivable from other experiences described in literature
- **support provided by the library is more limited but more difficult**





# Library's role: new challenges!

- A more personal contribution is required: the librarian facilitates the work of the HTA group searching for the best evidence and assessing its quality
- This requires the knowledge of specific HTA databases and especially the mastery of the tools to tell good scientific papers from poor ones



# Library's contribution in steps:



The contribution of the librarian in steps:

1. Meeting with the physician who made the request
2. Literature search about the diseases treated with the new technology and alternatives: traditional scientific databases (PubMed; Cinhal, etc.) and grey literature
3. Literature search about the new technology:
  - ✓ If already existing, HTA reports (CRD;HSTAT;etc.)
  - ✓ RCTs (PubMed; Cinhal; Embase; etc.)
  - ✓ Systematic Reviews (Cochrane Database; etc.)
  - ✓ Health economic analysis (NHS EED; etc.)



# Library's contribution in steps:



4. Critical appraisal and selection of the literature retrieved, performed independently by the librarian and one other member of the HTA group, following the P I C O model (Population, Intervention, Comparison, Outcome)
5. Extraction of the relevant data and creation of a summary table
6. Compilation, in the final HTA report, of the sections about literature search strategy and selection criteria applied



# Conclusions (I)



New skills required to scientific librarians:

1. Ability to deepen their knowledge in medicine, to fully understand the subject matter of the report
2. Ability to use databases specific to the Health Technology Assessment
3. Very good knowledge of English, to read the articles quickly and be able to understand the content for your selection with the PICO method and to write down the search strategy in the final report



# Conclusions (II)



For the future:

- Full-time librarian on HTA
- Dedicated scholarship on HTA in library
- Extension of library support to other hospitals in Lombardy (population 10.000.000, 30.000 beds in public hospitals)
- San Matteo will lead an HTA Interest Group in **Bibliosan**: a library system composed of a permanent and structured network of 56 of the most important Biomedical Research Institutes in Italy





# THANK YOU !

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