

Doing the right things
right

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Antero Aaltonen

Kielen ilot – The joys of language

This issue of Impakti reaches a wider audience than usual. FinOHTA, or the Finnish office for health technology assessment, sends its newsletter to some 6 000 Finnish subscribers, mostly health policy makers or health professionals. This issue will also reach our 39 sister organisations in 21 countries and will serve as our international visiting card for the next year.

Why in English? Is it not the *raison d'être* for a national HTA unit to provide information in its local language, on topics relevant to the nation? Yes – but that is not all. We need to tell our partners outside Finland what FinOHTA does and how we work, so they can decide what we are good at and whether we are a suitable partner for collaboration.

FinOHTA, like other national HTA units, is highly dependent on information produced by others. We currently complete 3–4 major assessments a year, while there are obviously many more health policy questions that need answering. The methods for assessing health technologies have been developed and tested within the international network of HTA agencies (INAHTA). Due to this common approach to assessment, reports from other countries are a key source of data.

Questions posed to the agencies are often very similar. In the last few months, we have utilised HTA reports in five languages from seven countries so as to provide useful information to our Finnish audience. Methods for screening the newborn for hearing problems are, after all, independent of what language the baby will learn first!

More often, language is a real challenge. FinOHTA presented its first rapid review on screening hearing in babies in a meeting of audiologists. The very concise review was well received, but one formulation was questioned. We wrote that screening with oto-acoustic emission was done ‘at a 35 dB sound level’. The experts in audiology noted that the expression was not quite correct. Even though our sources were published in German and Swedish, we had done our best to provide a comprehensible text for our audience. We had indeed checked several other concepts with Finnish specialists, but this one we had failed to check. Apologising for our mistake, we requested someone offer a correction.

The professor frowned and started to formulate. After twenty or so lengthy and technical words, he paused, turned smiling towards the audience, and asked if anyone thought our shorthand expression would lead to a misunderstanding in practice. Nobody did.

In health technology assessment we aim, like Yeats suggested, at “thinking like a wise man but communicating in the language of the people”. Better yet, we can think together in the network of wise men and women who practice health technology assessment worldwide. ☺

Marjukka Mäkelä



Kerttuli Korhonen

International evaluation guides the growth of FinOHTA

“The first eight years of FinOHTA have widely been seen as a major success. Why, then, was FinOHTA evaluated thoroughly by an international team in 2004? This was because of our obligation to repay taxpayers also in the future”, explains Juha Teperi.

Article

In spite of its small size, FinOHTA is a strategic player in Finnish health care. During the first eight years of FinOHTA's existence, it has become a focal point of national health technology assessment (HTA) activities. In the outcomes-oriented health care of today – with its strong emphasis on a sound evidence base – the importance of actors delivering reliable and relevant knowledge cannot be overestimated. To achieve its ambitious goals, the small unit has built strong networks with Finnish health care actors and within the international health technology assessment community.

When STAKES was established as a new organisation with a new mission in the early 1990s, it had to rapidly create new ways of operating. It was necessary to show a number of audiences that the new research and development organisation could deliver unbiased, up-to-date knowledge that was relevant to developing Finland's health and social services. In relation to the clinical world, FinOHTA has been the showcase for STAKES. As the part of a young STAKES that had the highest visibility in health care, FinOHTA helped the whole organisation to establish practical collaboration with health care actors.

IDEAL LOCATION AND SUBSTANTIAL SYNERGIES

At the same time as the parent organisation has gained from the work of FinOHTA, it has also worked the other way round. The largest health services research and health economics community in the country has created an environment conducive to health technology assessment. A national research organisation has been the ideal location from which to build up the critically important networks. Moreover, substantial synergies have been created by developing and sharing material and technical infrastructure that comes with a larger organisation.

The most significant reason for mutual satisfaction both in FinOHTA and in STAKES, however, is the feedback from outside. According to FinOHTA's partners and other key stakeholders, the unit has met their expectations.

So, FinOHTA is doing well, it receives positive feedback and STAKES as a parent organisation is, naturally, nothing but content. Why, then, was FinOHTA thoroughly evaluated by leading HTA experts?

Recommendations affirm the practices

Old, new, borrowed and blue

The Evaluation Group summed up the results of its work in 48 recommendations grouped under 12 main headings. Many of the recommendations affirm the present practices of FinOHTA, while some propose new ones. The headings are as shown below, with a few selected recommendations picked out by way of illustration. The selections were made by the undersigned; the full report is worth reading as well.

1. Aim and mission

The division of labour between FinOHTA and other units providing and disseminating evidence-based knowledge should be specified. Implementation is not FinOHTA's responsibility.

2. Organisational issues

The composition of the Advisory Board and the Scientific Board of FinOHTA should be reconsidered and their role in guiding activities should be strengthened.

3. Independence and priority setting

Position within STAKES benefits FinOHTA provided that an independent status can be guaranteed.

4. Target audience

The main target audience of FinOHTA consists of organisations providing healthcare services and making health policy decisions, not of individual clinicians.

5. Assessment topics

Explicit criteria should be used in selecting assessment topics, and the selection process should be transparent.

6. Pharmaceuticals

The Ministry of Social Affairs and Health should clarify the division of labour between FinOHTA, the National Agency of Medicines, and ROHTO.

7. International collaboration

Close collaboration with INAHTA, HTAi and the Cochrane network is an integral part of FinOHTA's activities.

8. Decentralised activities

Close collaboration at the national level is necessary even in the future, but there is no reason to decentralise FinOHTA's activities to several locations.

9. Funding of external research

It is appropriate to fund economic analyses, systematic reviews and implementation research. Other research can be supported methodologically.

10. Implementation

FinOHTA can provide support to medical schools in implementing evidence-based healthcare.

11. Internal and external competence

The staff of FinOHTA should be given opportunities for continuous education by inviting visiting professors, for instance. An adequate amount of expertise in health economics should be ensured.

12. Use of additional resources

The number of FinOHTA staff should be increased to between 20 and 24. In addition to the assessment of healthcare technologies, the core activities of FinOHTA include conducting systematic reviews and providing rapid responses to questions raised by the Ministry of Social Affairs and Health.

And the blue thought (which in Finnish means happy dream): The Evaluation Group suggests that health technology assessment should get a chair in a Finnish university.

MARJUKKA MÄKELÄ

OPPORTUNITY MEANS RESPONSIBILITY

The wide acknowledgement of the added value produced by FinOHTA has resulted in a major initiative. At a high political level within government, it has been decided to roughly triple FinOHTA resources in next few years. This creates a huge potential to further develop FinOHTA's work and strengthen the impact it makes. This opportunity also means responsibility. It is a joint obligation of FinOHTA and STAKES to make sure that the new resources are used in the wisest possible way. The taxpayer needs to be repaid.

In many cases, organisational evaluations are normative, aiming at an objective assessment of the 'goodness' of the organisation. Quite often, these evaluations include league tables of several organisations, which may also be used to direct the allocation of resources. The evaluation of FinOHTA did not belong to the category of normative assessments. You couldn't even rank FinOHTA against other Finnish units since the role and work of FinOHTA are nationally unique. The evaluation was development oriented rather than normative for a simple reason: STAKES wanted to ensure the maximum benefit from the new resources and the new phase of development. >>



Kerttuli Korhonen

>> A development-oriented evaluation of a health technology unit that operates in a complex context is not an easy task. To achieve far-sighted and feasible recommendations that are also practical enough to be implemented, a broad mix of expertise is needed. In addition to understanding health technology assessment methodology and organisation, you need to understand health policy and health services as well as the clinical environment where the work is done and where the results are utilised. When trying to locate leading experts from each of these fields, we realised that people who could meet the requirements of the evaluation group membership are few and far between.

EVALUATION GROUP WORKED AMBITIOUSLY

We started by asking the best experts we could think of to carry out the exercise. As commissioner of the evaluation, the STAKES senior management group was happy to get positive responses from a 'dream team', embodying an impressive amount of expertise in a group of just five members.

The group was led by Jarkko Eskola, a former Director General of the Finnish Ministry of Social Affairs and Health and a key figure in Finnish health policy. Professor Nina Rehnqvist, as Executive Director of the Swedish 'big sister' of FinOHTA, SBU, provided a combination of specific HTA insight and long-term experience in medical quality issues. Andy Oxman, who now works in Oslo as Director for the Informed Choice Research Department, is a prominent figure in international Cochrane Collaboration and known worldwide for his methodological expertise.

To ensure the needs of FinOHTA's partners a focus on, two eminent health care experts were brought in. Professor Krister Höckerstedt, Head of the Transplantation and Liver Surgery Clinic at the Helsinki University Hospital, is a clinician with an international reputation. Doctor Hanna Mäkäräinen is an Administrative Chief, though originally a radiologist, and has made a career in guiding several change processes in health care.

The evaluation group worked ambitiously, ensuring depth of the information and a variety of views. Representatives from over 30 organisations were

thoroughly interviewed. The expertise of the group was reflected in the set of 48 recommendations given in the final report in August 2004.

FinOHTA has been swift in utilising the input of the evaluators. In fact, half of the actions recommended have already been implemented, and the other half is being worked on. Examples of actions taken are an intensified quality assurance of the assessment processes, putting the focus of evidence dissemination on key organisations rather than individual clinicians, as well as targeted support to economic analyses, systematic reviews, and implementation research.

POLICY TO SUPPORT IMPLEMENTATION OF HTA

Although the number of recommendations was high, the evaluators did not let the details blur their more strategic vision. As interpreted by FinOHTA and STAKES senior management, some core issues still need to be discussed in depth. These include a policy to support the implementation of HTA evidence, the visibility of FinOHTA in health care organisations, and ensuring the maximum synergy with other STAKES units.

The evaluation has already shown that it was well worth doing. With these further analyses and subsequent action, the exercise has produced even more than was expected. In the years to come, FinOHTA will be capable of and committed to making a true impact. ☺

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Eskola J, Höckerstedt K, Mäkäräinen H, Oxman A, Rehnqvist N, Lampe K. The Future of FinOHTA – an External Review. FinOHTA Report 23, 2004. The evaluation report is published in the Internet www.stakes.fi/finohta/e/reports/



Kerttuli Korhonen

Health policy can be evidence-based

Doing the right things right

What is the significance of evidence-based healthcare in health policy? Answers to this question have been given by one of the world's most outstanding visionaries in the area, Professor Muir Gray from the University of Oxford. This article presents the principal ideas from his book *Evidence-Based Healthcare*¹.

Article

An ageing population, new technology and increasing expectations have increased the demand for health services. Healthcare resources, however, do not grow as quickly as the need and demand for services. Consequently, we should prevent disease, promote health and increase the value obtained by health services as effectively as possible.

According to Muir Gray, the value obtained by the resources invested in healthcare is maximised when no more benefit and no less harm can be obtained by allocating or using resources in any other way. What is essential is to seek to do the right things right. Resource allocation should take place both between and within specialities or patient groups. Doing the right things right means doing as much good as possible and as little harm as possible with any patient or group of patients.

Scientific evidence should be used in health-service resource allocation based on existing evidence on outcomes.

EIGHT CHANGES UNDERWAY

Professor Gray mentions eight changes in healthcare that we face on entering the 21st century.

We are moving

- from professional-centred to patient-centred approaches,
- from focussing on the effectiveness and efficiency of individual healthcare methods to assessing healthcare as a whole, thus increasing the value obtained by health services,
- from opinion-based argumentation to evidence-based decision-making,
- from assessing individual events to assessing care pathways,
- from organisational approaches to network thinking,
- from healthcare structures to systems,
- from money-driven to knowledge-driven systems, and towards
- placing consultation more at the centre.

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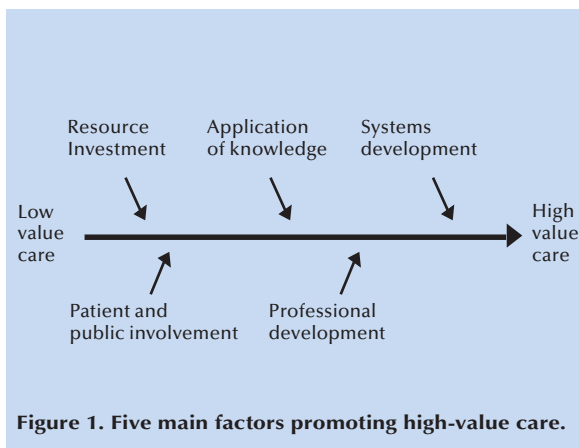


Figure 1. Five main factors promoting high-value care.

>> According to Gray, five different factors need to be taken into account when moving from low-value to high-value healthcare (Figure 1).

KNOWLEDGE IS THE ENEMY OF DISEASE

Muir Gray divides knowledge into scientific evidence, statistics that provide knowledge by measuring healthcare performance, and knowledge from experience, especially from mistakes. Knowledge of these three types is needed to promote both clinical practice and healthcare management. Clinical observations yield data, and an analysis of data yields information. When information is put into use, it is activated into knowledge: knowledge is information in action.

Knowledge is also the enemy of disease. The application of knowledge can prevent seven big healthcare problems: errors and mistakes, poor

quality of care, waste, in appropriate variations in care practice, poor patient experience, over-enthusiastic adoption of interventions of low value, and failure to get new evidence into practice. We can alleviate these problems by applying knowledge on the three key areas of healthcare – consultations, clinical decisions, and systems of care.

Scientific evidence can be put into practice by offering incentives, such as regional care programmes, by promoting rapid information search and by providing new information.

THE RESOURCEFUL PATIENT – TODAY’S REALITY

The three most important groups of information users are patients, clinicians and healthcare managers. Professor Gray maintains that every patient should be taken as willing and able to participate in decision-making on matters that concern them unless they make it clear that they do not want to.

After it has been established to what extent the patient is willing to get involved, the patient should be given the necessary resources. The clinician should also expect the patient to use these resources.

This interactive situation has inspired Gray so much that he has written on a book on the subject, entitled *The Resourceful Patient*². The book can be read at www.resourcefulpatient.org.

With improved access to knowledge, patients are increasingly knowledgeable. It may even happen that patients know more of their diseases than a general practitioner, a specialist or even a professor in that area – especially if the disease is a rare one.

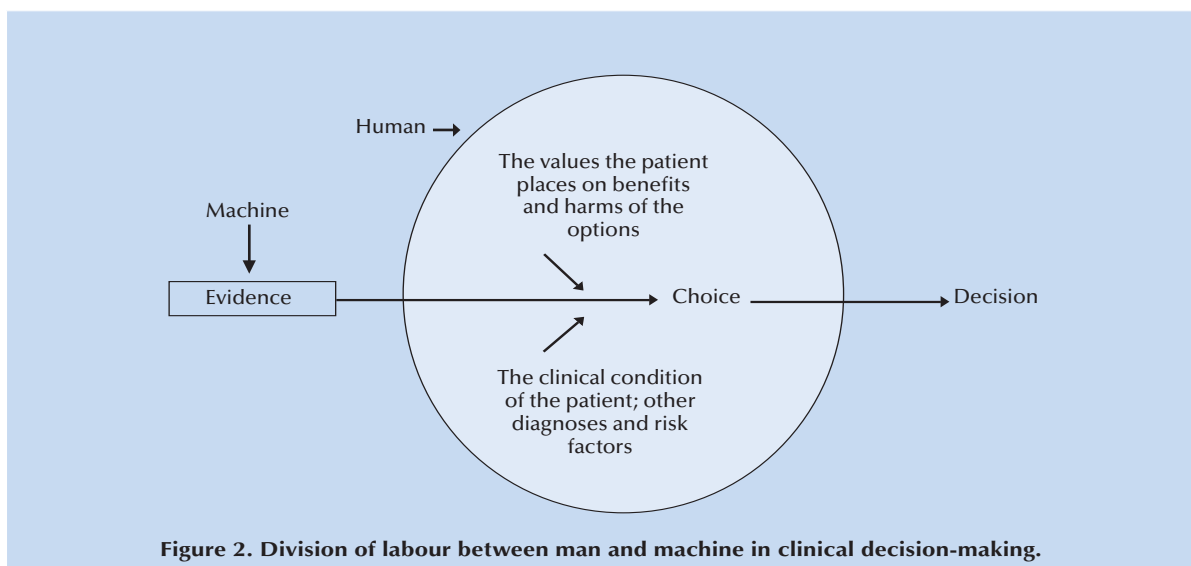


Figure 2. Division of labour between man and machine in clinical decision-making.

EVIDENCE WEIGHS MOST HEAVILY

It is important for the clinician to learn to say "I don't know" with ease and confidence in a care situation, says Muir Gray. The clinician should know how to find the best available evidence, listen to the patient's story, examine the patient carefully and then decide on diagnostic tests and treatments. In this way he or she can match the best available medical evidence to the patient's condition.

In a care situation the clinician should also find out whether the patient is willing to participate in making the decision.

Patient should receive access to knowledge

The treating doctor should discuss different treatment options with patients and help them make

informed choices based on their own values.

How can a clinician access current reliable knowledge in the decision-making situation? The computer plays an increasingly important role in producing and providing current evidence to support decision-making. However, the computer cannot replace human creativity. Brain cells are needed to combine the evidence from the computer screen with the patient's clinical condition and information about the patient's values and viewpoints (Figure 2).

Healthcare is evidence-based when health policy, public health interventions and health administration are guided by best available information. Healthcare managers should create a culture

that enables knowledge to be managed as efficiently as finances. A system is needed that gives both staff and patients access to the best available knowledge needed for safe and effective practice. According to Professor Gray, structures need to be created that enable and promote such knowledge management. A Chief Knowledge Officer at board level and knowledge managers at unit level would be useful in this respect. ☹

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- 1 Gray M. *Evidence-Based Healthcare. How to Make Health Policy and Management Decisions*. Churchill Livingstone, Edinburgh 2001, second edition.
- 2 Gray M. *The Resourceful Patient*. Rosetta, Oxford 2004. Also available at www.resourceful-patient.org/



Hippocratic oath on Kos.

Pekka Punkari



Kerttuli Korhonen

Funding and methodological support

A menu of HTA projects

The Finnish Office for Health Technology Assessment promotes national health technology assessment in several ways. A variety of external research projects receive support according to clear criteria.

FinOHTA provides financial and methodological support to external HTA projects that aim to explore the clinical impact or cost-effectiveness of healthcare. In particular, we offer funding for systematic literature reviews and economic evaluations within clinical trials. The projects should also take due account of social, ethical and legislative considerations. Assessment is needed especially for new, expensive or contested health technology. Similarly, assessment is needed if the use of a

technology is found to show considerable regional variation or if there is no high-quality evidence in favour of its use.

FinOHTA currently participates in 15 assessment projects that are carried out by outside researchers in organisations around Finland. Annually, FinOHTA receives some 30 project proposals for appraisal. The projects cover a wide variety of topics, ranging from impact assessment of ambulance helicopters to multi-drug treatment in rheumatoid arthritis.



Relevance assessment underpins funding decisions

FinOHTA has recently developed a quantitative method to assess the relevance of health technology assessments. The aim has been to achieve an instrument suitable for priority setting of HTA topics. We applied the method to a random sample of 25 health technology assessments undertaken by FinOHTA during the last ten years: 13 randomized trials, 11 systematic reviews and one modelling study.

The relevance was based on assessment of

- A. burden of illness of the disease
- B. impact of the disease on health-related quality of life
- C. assumed effectiveness on health-related quality of life
- D. assumed cost consequences of the technology
- E. cost of the intervention
- F. prior level of evidence
- G. number of on-going studies
- H. lifecycle point of the method
- I. health policy interest in the method
- J. alternatives for the method.

Each item was classified on a scale of 1 to 5 according to increasing relevance by two people independently followed by a consensus meeting. The relevance varied between 40 and 78 per cent. Only two items, burden of illness and lifecycle point of the method, scored at least 3 points for all of the studies. Randomized trials and systematic reviews did score rather similarly in the evaluation. Table 1 shows the top ten HTA projects in terms of relevance.

A quantitative method to assess the relevance of health technology assessments supports a qualitative one. However, there is a clear need to further assess the validity of the quantitative relevance assessments.

REFERENCE

Oortwijn W, Vondeling H, van Barneveld T, van Vugt C, Bouter L. Priority setting for health technology assessment in the Netherlands: principles and practice. *Health Policy* 2002;62:227–42.

Assessment criteria for projects supported by FinOHTA

1. Is the problem relevant from the perspectives of public health and economic considerations?
2. Can the research design answer the questions posed?
3. Does the research plan include the necessary elements and objectives of a good assessment project?
4. Is the research method of a high quality?
5. Can the research results be utilised in practice?
6. Have financial, ethical and social aspects been taken into account?
7. Are data protection issues considered?
8. Have the researchers' potential economic interests been reported?
9. Do the researchers have the competence required for implementing the study according to the plan?
10. Are the project objectives in balance with the financing?
11. Is the timetable realistic?
12. How will it be ensured that the research findings will bring about a change in healthcare practice and how can evidence be obtained on this change?

A CAREFUL CONSIDERATION OF PROPOSALS

Project proposals are first considered by FinOHTA staff members and permanent experts in the unit meeting, convening every third week. If necessary, improvements are suggested and further information requested.

In addition to being considered at the unit meeting, proposals concerning assessment projects that require substantial funding are submitted to the 14-member Scientific Committee of FinOHTA, convening 4 to 6 times per year. Major funding decisions are approved by the STAKES management group. It usually takes 2 to 6 months from the submission of a project proposal before a positive or negative funding decision is given.

After an assessment project has been granted support, practical funding arrangements are agreed on between FinOHTA and the head of the research

group. The grant is paid to the background organisation of the research group, and a written agreement is made concerning the research activities to be covered by FinOHTA funding. FinOHTA requires that it should be informed on the progress of the activities and related spending.

FinOHTA can use the research findings in its information activities, provided that this has been agreed on with the research group. Any articles published on the project as well as the final report summarising the study shall be sent to FinOHTA for information.☹

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Table 1. The top ten HTA projects and their relevance evaluation (see the list for criteria A–J).

	A	B	C	D	E	F	G	H	I	J	Sum	%
Comparison of conservative vs. surgical treatment of moderate spinal stenosis*	5	2	3	3	3	5	5	5	3	5	39	78
Prevention of hip fractures with an external hip protector*	4	4	4	1	4	5	5	3	5	3	38	76
Comparative study on operative vs. non-operative treatment of lumbar disc herniation*	5	2	3	2	3	4	3	5	3	5	35	70
Effectiveness of helicopter use in emergency medical services**	3	5	5	5	1	4	1	4	5	1	34	68
Colorectal cancer screening in Finland**	3	5	4	1	2	4	5	3	3	3	33	66
Coronary angioplasty in Finland**	5	2	3	5	4	2	1	5	5	1	33	66
Randomized trial of combination therapy for rheumatoid arthritis*	5	2	3	1	4	5	5	3	3	1	32	64
Blood glucose self-monitoring in diabetes **	5	2	2	1	4	4	3	4	3	3	31	62
The effectiveness of geriatric open-care rehabilitation*	5	2	1	3	2	4	3	5	5	1	31	62
The treatment of hallux valgus*	5	1	2	1	3	5	5	5	1	3	31	62

*Randomized trial, **Systematic review, ***Other



Pekka Punkari

Information seeks an audience



Health technology assessment aims at changing practices. This requires active use of relevant, easily accessible and up-to-date information.

Since its early years, FinOHTA has adopted an active information policy. A considerable share of the staff time is used for information dissemination. This policy also fits in the more general policies within Finnish health care: information has a more important role in guidance than binding regulation.

INCREASING AWARENESS

During the first years of FinOHTA, there was not much local HTA information available. Hence the Office started to look actively at the results of HTA agencies in other countries. Reporting findings of assessments carried out around the world, as well as describing assessment methodology, became an integral part of FinOHTA's first newsletter TAinfo (Technology Assessment Info). The newsletter evolved in 1998 into the current journal *Impakti* ('impact' in English). The journal is published six times annually and over 6000 copies of each issue are circulated to various health care organizations and individual subscribers.

According to a survey in 2003, more than half of decision-makers (55%) and almost half of the medical journalists (42%) in Finland receive the journal through subscription. Subscription rates among other interest groups were somewhat lower, giving an overall rate of 27%. Other groups

included health care professionals and patient organizations. Decision-makers were the most devoted readers of *Impakti*, 58% of them read the journal every now and then and 34% regularly.

RESULTS OF NATIONAL ASSESSMENTS

Publishing assessment results has taken two main forms. Whenever the project group has preferred writing a journal article, FinOHTA has encouraged this to ensure a wide audience. Publication facilitates professional and scientific discussion. FinOHTA has also developed its own report series, which ensures swift publication in Finnish in a more comprehensive form. Several hundred paper copies of each FinOHTA Report are distributed, and they are also available on the internet.

CONSCIOUS POLICIES

Three key principles have guided FinOHTA's own information production. Firstly, all FinOHTA publications aim at providing information in such a manner that a formal medical or other health-related education is not required by the recipient. Decision-makers – whether they are members of municipal health boards or individual patients – need and deserve clear information, not medical jargon. Secondly, the publications have been



provided free-of-charge to facilitate an increased awareness of such a new field of research as well as individual assessments. Last but not least, FinOHTA has always aimed at effective use of both paper-based and electronic media.

WEB PRESENCE

FinOHTA launched its website as early as 1995. In 2004, the average number of pages viewed per day was approximately 2 400, resulting in a total of 870 000 page views per year. The most popular document was FinOHTA Report 22, Screening of rare metabolic diseases in newborn infants, which was downloaded over 9 000 times. The most popular issue of *Impakti* (nr. 2/2004) was downloaded approximately 6 500 times. Due to technical reasons, these numbers do not reflect the exact number of individuals interested in the report or the relative popularity of different files. Despite the uncertainties of web usage statistics, the numbers speak of a substantial audience among Finnish web users.

FinOHTA has also established a reasonable web presence; according to AltaVista, 214 other web pages link to FinOHTA's home page. The structure and layout of the current website stems from 1997. A facelift is scheduled for the site in 2005.

FROM DIFFUSION TO DISSEMINATION

Distributing information through publications or the website is rarely the most effective way of inducing a real change in the health care system. More targeted and planned efforts are necessary, but they usually require substantial resources.

As a relatively small unit our dissemination and implementation strategies have been limited. Some activities, however, count as more targeted efforts of information distribution.

For several years, our "literature committee" has screened the vast number of reports published by other HTA agencies and deliberated which experts in Finland should be aware of such reports. Notifications are sent to experts through email and further actions are taken based on recommendations. Another more active mode of communication has been the organization of seminars to inform relevant actors about current or completed national HTA projects. Staff members and consultants of FinOHTA are also frequent speakers in national conferences and seminars.

TIMELINESS AS A FUTURE CHALLENGE

Thus far, the majority of FinOHTA's communication activities have focused on distributing information that has become available. In the future, we must tackle another challenge: information needs and provision do not always meet. We need to be more responsive. We need to meet in a timely manner the various information needs that arise in health care decision-making. Important steps in this context include developing methods for rapid responses, ensuring that various health care actors are able to find HTA information, as well as the inclusion of HTA information in decision support systems. ◀

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A new strategy for FinOHTA

The strategy of FinOHTA for 2005–2009 was drawn up on the basis of earlier policy definitions, surveys, and the report of the external Evaluation Group. We have reconsidered our mission and specified the principles underlying our activities.



The future aims of FinOHTA are being shaped: work on the vision of FinOHTA for 2010 will be completed during the spring. The mission of FinOHTA is to promote the use of evidence-based technology in the Finnish health care system in order to enhance the effectiveness and impact of health care. The strategy sets out six guiding principles underlying our activities. Both the mission and the principles will appear familiar as our targets have not changed over a period of ten years. The principles underlying our activities are as follows:

Independence. FinOHTA aims to produce, synthesise and disseminate unbiased information, performing health technology assessments from the perspective of the society as a whole.

Reliability. The technologies to be assessed are identified and information is gathered and assessed in collaboration with topic experts in a systematic, reliable, repeatable and transparent fashion. Our working methods are multi-professional, and besides effectiveness and cost we focus on ethical

and social considerations as well as issues linked to service provision.

Supporting significant decision-making. Our main target audience consists of organisations making health policy decisions at local, regional and national levels. Priority is given to major health policy issues, such as screening and rehabilitation.

Usability. Assessment results are written for the informed general public, but can be published separately to allow evaluation by the international scientific community. Information is made accessible to end users through different channels.

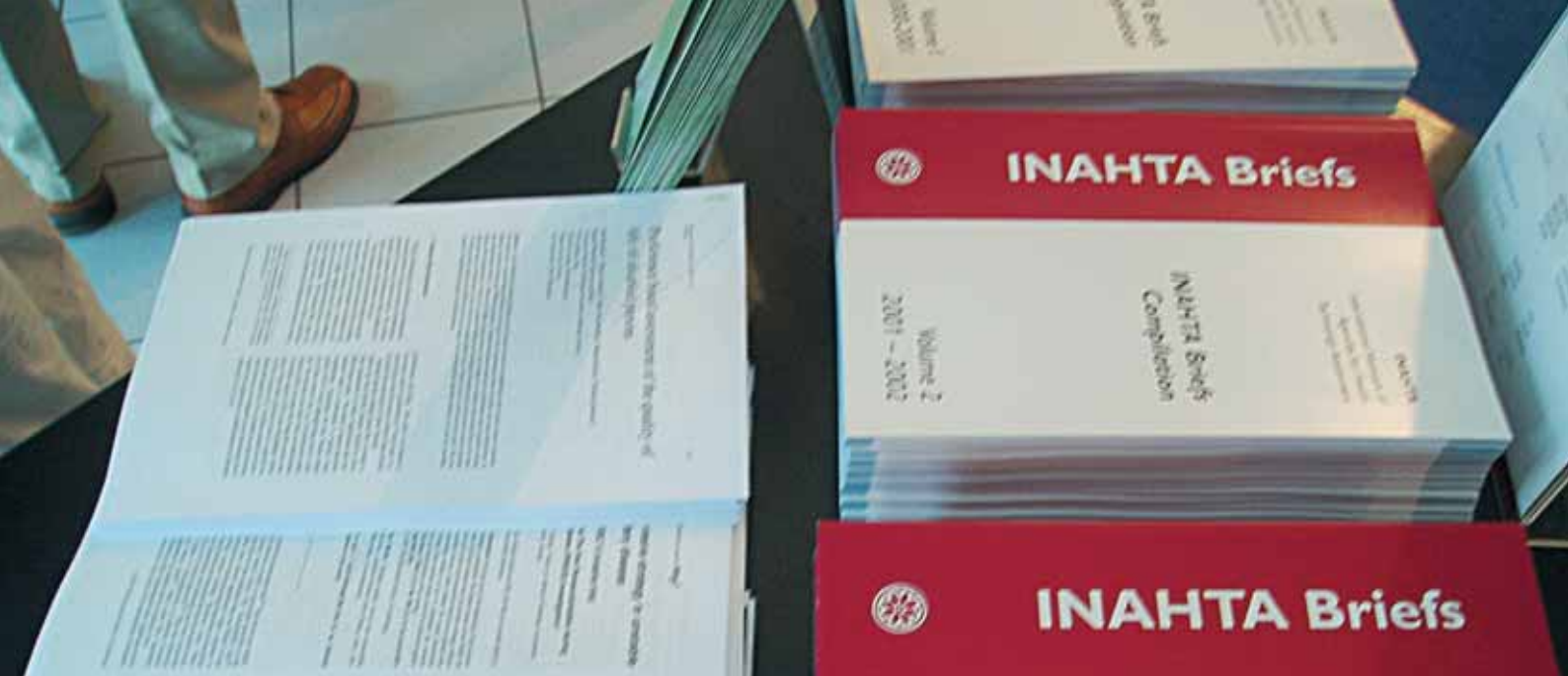
Collaboration. The aim is to collaborate flexibly with others producing and disseminating evidence-based knowledge nationally and internationally. Close contacts and appropriate structures help prevent duplication of work.

Methodological support. FinOHTA also promotes health technology assessment by providing project support and methodology training with a focus on systematic reviews and trainer training. ◀



Jouko Kokko

*FinOHTA staff in summer 2004.
from front left to right: Sirkku Vuorma, Heidi Anttila,
Terhi Ilonen, Marjukka Mäkelä, Ilona Autti-Rämö
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Kerttuli Korhonen

What is HTA information?

Article

"As technology continues to change and expand rapidly, its applications are large and growing in scale; and increasingly extensive, pervasive, and critical in their impact, beneficial and adverse, on the natural and social environment."¹

Health technology is generally seen to comprise nearly all methods (tricks) and artefacts (objects or products) used to improve and maintain health. Technologies include pharmaceuticals, devices, surgical operations and other procedures, and various support systems. HTA, in turn, refers to multi-disciplinary research done in order to examine the short- or long-term impacts of technology use.

Clinical health impacts are not the only focus of HTA, where financial, social and ethical considerations are also taken into account.

INTERNATIONALLY PRODUCED INFORMATION

Danish researchers analyzed methods used in HTAs internationally². They reviewed the publications of 11 HTA institutions from 1989–2002, a total of 433 HTA reports. Most reports were issued towards the end of the period, 52 per cent of them during the last three years. Procedures were assessed most frequently, accounting for 59 per cent of the technologies. In the early 1990s, devices were assessed fairly frequently, while there has been an increasing focus on pharmaceuticals since the mid-1990s.

The most common research method in the reports was a systematic literature review, performed in as much as 92 per cent of cases. However, as the reports had often been produced using more than one method, the use of literature reviews accounted for only 58 per cent of all methods used. Other common methods were economic evaluations and various types of modelling.

For FinOHTA, an analysis has been made of the principal method used in studies launched 1999–2004³. Although this analysis is not fully comparable with the Danish one, it suggests that on average FinOHTA has based its HTAs on randomized trials more often than other institutions. This may be due to differences in approaches, but also in the type of technologies assessed and the availability of information. Modelling is also frequently used in Finland.

SIMILAR BUT DIFFERENT

Danish researchers also analysed the extent to which other impacts of technology besides health impacts had been taken into account in the assessment reports of these 11 institutions⁴. According to the Danish definition, HTA includes not only clinical measures but also economic, as well as patient- and organisation-centred assessment. This was markedly less frequent internationally than clinical approaches. There was also considerable variation between institutions in approaches. The broadest approach was employed by the HTA institutions in Denmark, Sweden and Great Britain, whereas those in the USA, Australia, Canada and New Zealand had focussed on clinical measures.

HTA thus means slightly different things in different parts of the world. Imported information is often useful, but careful consideration is, of course, necessary when applying it in local decision-making.

Most reports published by the HTA institutions are available free of charge over the Internet. Nearly >>

Implementing available knowledge

Knowledge relevant for healthcare decisions can today be roughly divided into two main categories. Primary data are produced by observing healthcare phenomena. They can be obtained by nearly any traditional research method, such as surveys and randomized controlled trials (RCT). Secondary data, in turn, are produced by pooling and analysing primary data.

When several studies exist on the same subject, it is usually useful to bring their principal findings together under a single cover, which means conducting a systematic literature review. In addition, if the research designs by which the numerical data have been obtained are sufficiently identical, a meta-analysis can be conducted on the findings, that is, a number of less extensive studies are combined into a single comprehensive one. HTA can draw on both primary and secondary data. It is often reasonable to use secondary data and this is also the best alternative ethically due to the wealth of information available: the MEDLINE database, for instance, already contains over 12 million medical articles. Nevertheless, primary research is also needed if the necessary information is not available.

A challenge to HTA is to produce comprehensive analyses of the impacts of technology and at the same time respect the classical definition of knowledge – we certainly do not want to base our decisions on mere guesses or opinions. While at least some reliable information is usually available on the health impacts of technology, a bigger challenge is often to consider costs and social and ethical aspects.

Too often the best available knowledge is based on expert opinion. Such knowledge does not have an equally solid foundation as those where is research evidence available. However, all available information can be used as material in assessments. It is essential that the best available information is used and that the reader is informed of the type of knowledge on which the assessments are based. Furthermore readers themselves must be aware of the level of scientific evidence behind HTA reports, and this awareness should be reflected in decision-making. For instance, if no solid scientific evidence is available, the decisions should immediately be reconsidered when more evidence is produced.

>> 700 individual publications were issued in 2002⁵. Most of them were assessment reports (39%) or brief assessment documents (21%). In addition to the web sites of the institutions, a very useful source of information is the HTA Database of the University of York⁴.

NOT FROM KNOWLEDGE ALONE

Decision-making in healthcare is not only knowledge-based. In addition to scientific evidence, other factors affect decision-making, including the availability of resources, value considerations and patient preferences. A recent external evaluation of FinOHTA recommended that FinOHTA should refrain from making recommendations concerning the technologies assessed³. Hence, HTAs performed in Finland are not likely to eliminate the pain of decision-making. In the end, the application of the best available knowledge remains the decision-makers' responsibility. HTA information may, however, offer valuable support when decisions have to be made. ☺

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Evidence on effectiveness?

Self-monitoring of blood glucose



FinOHTA summoned an expert group to examine the use of self-monitoring of blood glucose (SMBG) in Finland, as well as the evidence on effectiveness and cost-effectiveness. This article highlights some key findings from their recent report.



Recent data from 2000 and 2001 show that the glycemic control among diabetic persons is not satisfactory in Finland. SMBG is common among people with diabetes,

but no exact data on the extent of monitoring or its frequency is available. The municipal health care services provide patients with the SMBG supplies, including the glucose meters and strips.

Several recommendations regarding diabetes management have been issued in Finland. Practical guidance in SMBG is given by several parties, e.g. through diabetes nurses, general practitioners, diabetes specialists and local diabetes associations. Variation in the overall co-ordination and quality management of self-monitoring may contribute to non-satisfactory patient outcomes.

The majority of the costs of SMBG supplies results from the test strips. If all people with diabetes in Finland would perform SMBG according to recommendations, the maximal annual cost of strips would be between 40–59 million euros. Currently, however, the actual cost is most likely clearly below 40 million euros.

We searched for studies on SMBG. Sixteen studies fulfilled the inclusion criteria, 8 of those prospective trials (table 1). Only one prospective study addressed type 1 diabetes. This is probably explained by the

use of insulin replacement therapy, which in practice necessitates the use of SMBG. The expert group concluded that in type 1 diabetes SMBG can be regarded as an essential part of an effective treatment strategy.

Fifteen studies looked at SMBG in type 2 diabetes. Based on seven prospective clinical trials, the expert group concluded that glycemic control in type 2 diabetes can be improved through SMBG, irrespective of the treatment type.

SMBG was not the only intervention in the included studies. Self-monitoring was usually accompanied by patient education or active follow-up routines. Consequently, the optimal beneficial effect of SMBG on glycemic control probably requires its active integration into comprehensive diabetes management. For some persons with type 2 diabetes not treated with insulin, self-monitoring of urine glucose may be a feasible – though not as sensitive – alternative self-monitoring method e.g. if the person is unable or unwilling to perform SMBG. Self-monitoring of urine glucose does not provide a means to detect hypoglycemia.

Two studies on the cost-effectiveness of SMBG were identified^{1,6}. The results, however, are not easily transferable into western industrialized context. Hence, no convincing evidence on the cost-effectiveness of SMBG, or lack thereof, in the local context was found. It is not sensible, however, to consider the cost-effectiveness of SMBG as a practice completely separate from other diabetes management. If SMBG is carried out in a manner that leads to improved gly-

>>

Table 1. Outcomes of prospective trials.

	Study setting	Study outcome	
		<i>Positive</i>	<i>Inconclusive</i>
Type 1 diabetes	SMBG vs. UG		Starostina ¹
	SMBG vs. Nothing	Starostina ¹	
Type 2 diabetes	SMBG vs. UG		Allen ²
			Fontbonne ³
			Miles ⁴
	SMBG vs. Nothing	Guerci ⁵	Fontbonne ³
		Kibriya ⁶	
		Rutten ⁷	
		Schewes ⁸	

SMBG=Self-monitoring of blood glucose, UG= Self-monitoring of urine glucose, Nothing= No self-testing among control group

>> cemic control, the economic effects are probably favourable, since the costs associated with diabetic complications are very high. It has been estimated in Finland that the treatment of patients with diabetic complications make up over 90% of the incremental costs of diabetes care⁹.

In the discussion section topics essential to ensuring the beneficial effects of SMBG are deliberated. These include the role of SBMG in diabetes management; patient education; responsibilities and education of professionals; diversity of devices; and computer-assisted treatment. SMBG bears the potential for positive impact on the quality of life of people with diabetes, as well as on health care costs. Such beneficial effects, however, are not an automatic outcome; they require careful and active integration of SMBG in diabetes management. ◀

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Cost-effectiveness of treating acute otitis media

Acute otitis media (AOM) is one of the most common diseases of childhood, representing a major disease burden on the society. National, evidence-based Current Care -guidelines for AOM were introduced in Finland in 1999. This study evaluated the cost-effectiveness of implementing these guidelines.



PATIENTS

All AOM patients between the ages of 0 and 6 years visiting the study health centres during one week in November 1998 (n=579) and November 2002 (n=369). A random sample of these patients (n=94 in each year) were interviewed by telephone two weeks after the consultation.

METHODS

Setting: A 5-year prospective trial conducted at 30 health centres.

Implementation of guidelines: Educational intervention; academic detailing or problem based learning and feedback.

Costs:

- Total costs of an infection from a societal perspective including direct health care costs, productivity costs and the costs of the educational intervention.
- Costs monitored for a period of two weeks.
- Use of resources/services valued at the unit costs in 2002.

Effectiveness: Percentage of symptom-free patients at the time of the follow-up telephone interview.

Main outcome measures: The average and incremental cost-effectiveness ratio.

RESULTS

- The percentage of symptom-free patients at two weeks after the consultation increased from 68% in 1998 to 78% in 2002.
- According to preliminary results, the mean direct cost of an AOM episode per patient after the implementation of the guidelines was slightly lower than before the implementation.
- The treatment after the implementation of the guidelines was a more effective and less expensive strategy.

DISCUSSION

Changes in treatment practice towards the guidelines produced health benefits and cost savings. The analysis assumed that no changes in the treatment practice would have happened between 1998 and 2002 without the educational intervention. The intervention was a single investment.

This study focused on short-term effects. The inclusion of long-term effects (complications, resistant strains etc.) to the analysis would probably affect the results. ◀

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Systematic review and current practice

Intensity of physiotherapeutic interventions in CP



Cerebral palsy (CP) is the most common cause of permanent motor disorder requiring physiotherapy from infancy through adulthood. A FinOHTA project looks at the effectiveness of physiotherapy in CP. These results on the effect of physiotherapy intensity were presented in the 12th Cochrane Colloquium 2004 in Ottawa. The entire project will be finished by 2006.

OBJECTIVES

1. To make a systematic review on the effect of the intensity of physiotherapy treatment in CP,
2. To describe current practice in recommending physiotherapy for children with CP in Finland, and
3. To compare practice patterns with data on effectiveness.

Systematic review on intensity of physiotherapy (table 2)

INCLUSION CRITERIA

- Population: children with CP, aged <20 years
- Intervention: Physical therapy
- Study design: Randomised or controlled clinical trials, reference lists of review articles
- Outcomes: All measures reported

LITERATURE SEARCH

- In April–June 2003 from Medline and Cochrane databases.

STUDY SELECTION, DATA EXTRACTION AND QUALITY ASSESSMENT

- Two reviewers, additional reviewer to solve disagreements.
- Of 349 abstracts, 21 full texts were ordered and 6 articles included.
- PEDro scale (www.pedro.fhs.usyd.edu.au) was used for quality assessment.

CONCLUSIONS

The systematic review shows no evidence that more intensive physiotherapy would result in better outcomes.

Current practice in recommending physiotherapy for children with CP varies markedly in Finland. Each hospital seems to create their own practice style based more on personal experience than research evidence. A national consensus based on the existing evidence would be needed to provide equal opportunities for rehabilitation within Finland. ☹

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Current practice (table 1)

A short written summary and video of three children with spastic diplegia of different severity (age 2y 9mo to 4y 2mo) were sent to the rehabilitation teams of all University Hospitals and Central Hospitals taking care of children with CP in Finland. The rehabilitation teams were asked to make recommendations on the intensity of physiotherapy for the following year.

Table 1. Variation of intensity of recommended physiotherapy

	Patient A	Patient B	Patient C
GMFCS	II	III	IV
Hours/year	60–140	58–200	75–150
Times/week	2–3	1–5	2–3

GMFCS = Gross Motor Function Classification Scale (I–II ambulant, III walks with aids, IV manual wheelchair, V no independent ambulation/electric wheelchair)

Table 2. Review of Studies.

Study	Intervention	Intensity	Endpoint	Short time effects	PEDro score
Bower 2001	NDT 6 months+6 months follow-up	I: 60 min/5x weekly C: Routine (realized mean 6 hours/3 months)	Gross motor function, performance	–	7/10
Bower 1996	NDT 2 weeks	I: 60 min/5x weekly C: Conventional (realized 1,0-3,0 hours/2 weeks)	Gross motor function	+	6/10
Law 1991, 1993	NDT+casting 6 months +9 months follow-up	I: 45 min/2xweek + 30 min home programme daily C: Regular	Upper extremity fine motor and skills	+	6/10
Van den Berg-Emons 1998	Aerobic physical training 12 months	I: 45 min/4x weekly C: No extra training	Physical activity, aerobic power or anaerobic power Fatt mass	– +	6/10
Chad 1999	Facilitation of normal movement, emphasis on weight bearing 8 months	I: 60 min/2x weekly 2 months, then 3x/weekly 6 months C: No extra training	Bone mineral density	+	5/10
Sommerfeld 1981	Physiotherapy (NDT, Bobath, Rood) 8 months	I: 30 min/2xweek C: No therapy	Reflexes, gross motor function, range of movement	–	4/10

NDT=Neurodevelopmental treatment



Kerttuli Korhonen

Obstructive sleep apnoea among adults

Nordic HTA agencies decided in 2003 to co-operate in exploring the scientific evidence of the diagnosis and treatments of obstructive sleep apnoea (OSA) among adults.



The project aims at producing an HTA-report focusing on the benefits and harms of the diagnostic and treatment options in OSA. This is supplemented with survey data on clinical practices in the Nordic countries. The social and ethical aspects related to the condition are also addressed.

Obstructive sleep apnoea is a condition characterized by repeated obstructions of the upper airways during sleep and daytime sleepiness¹. The prevalence of OSA is not very well known. Overweight is a common cause. Snoring and daytime sleepiness are the most prevalent symptoms. Such patients run an increased risk for traffic accidents, stroke, heart disease and arterial hypertension.

Sleep apnoea is usually diagnosed by polysomnography (PSG) which is regarded as the reference standard. During one night, PSG records the airflow, respiratory movements, sleep phases (EEG, EOG, EMG), ECG, oxygen saturation and often the body position. Portable PSG devices without sleep phase registration allow home evaluations and are used increasingly. The most common treatment of OSA is continuous positive airway pressure. Other treatment options include surgical treatments and oral appliances, such as mandibular advancement devices.

In the systematic review, alternative diagnostic methods used in the Nordic countries in diagnosing sleep apnoea are compared. The benefits and harms of various OSA treatments are described, focusing on excessive daytime sleepiness. Data are collected from randomised controlled trials or systematic reviews of

such trials. All parts of the report will build on a systematic approach with predefined inclusion and exclusion criteria, comprehensive literature searches, quality assessment of the included studies and synthesis with qualitative analyses or meta-analyses as appropriate.

The evidence will be compared with survey data from the Nordic countries. In each country, questionnaires were sent out to hospital departments diagnosing or treating OSA and to 200 randomly selected general practitioners. The questions dealt with patient volumes and usage of different diagnostic and treatment techniques. A preliminary analysis shows considerable differences in diagnostic procedures and treatment options both within and between countries.

An HTA expert and a specialist in sleep apnoea participate from each country. SBU is responsible for co-ordinating the project and the final HTA-report. The results will be published in English as a full SBU report. Summaries of the report will be available in all Nordic languages. ▾

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Kerttuli Korhonen

The emerging role of technology in home care delivery

Many people wish to be treated in their homes instead of institutions. As a response – and expressing health policy goals – clinical treatments administered at home are emerging and expressing in many countries.



Advanced technology enables the homeward shift of specialized care previously provided only in institutional settings. Many clinical treatments are suitable for use at home, for example oxygen therapy, palliative care and interavenous infusions. However, this use of advanced technology raises many new issues, and before any further development is fostered, these should receive careful consideration.

ADVANCED TECHNOLOGY AT HOME — FOUR POINTS OF CONCERN

According to a Canadian report, there are four aspects in the development and increased use of technology at home that require immediate attention¹.

The first deals with the collaboration between community-based and specialized, hospital-based home care; currently, the interface between these two is weak. A great majority of home care services are provided by community-based home care programs. In addition to these community-based actors, hospitals have actively developed home care services for patients with both acute and chronic diseases. Both community and hospital-based actors are extending their traditional boundaries and at the same time increasing the use of technology at home; appropriate co-ordination is essential.

The second issue deals with increased responsibility for patients and informal caregivers. Acquiring adequate knowledge and skills that enable them to use advanced technology at home can be a challenge. The authors also highlight the issue of service quality: when advanced technology is used by patients and informal caregivers, who is ultimately accountable – clinically and judicially – for the quality? Not all patients and their family members are willing to take on this kind of professional task which might be seen as a burden.

Thirdly, the authors point out the risks associated with home environments. The use of specialized equipment and medications at home creates increased demands for hygiene, adaptation of physical environments, and surveillance. Even more complicated circumstances and factors may affect the lives of patients and their families. Taking risks influences the psychological well-being of both patients and their family members, which in turn affect the family relationships and social networks.

The fourth aspect relates to the implementation of home care services despite the lack of evidence of any cost-effectiveness. As hospital care services are generally very costly, it is often assumed that home care services are less expensive. However, private and public costs as well as indirect costs have not always been assessed in the same way. This is why studies on cost-effectiveness are conflicting. There is

Canadian recommendations

1) Establish innovative organizational mechanisms that support the delivery of co-ordinated home care

To co-ordinate community-based and specialized hospital-based home care programs requires a clear strategy and specific inter-organizational mechanisms, e.g. case managers, joint budgets, regional programs, shared information systems and practice guidelines. These mechanisms should be seen as legitimate by both actors. More equitable and less hierarchical models of multi-professional team working, shared decision-making and mutual respect should form steady foundation pillars, while the ownership of care rests with the whole multi-professional team.

2) Increase support for patients and caregivers

The benefits of home care often outweigh the risks and liabilities. The risks can, however, be minimized by training, supporting and supervising the learning of patients and caregivers. This requires didactic skills of the personnel. The staff delivering home care should also find training activities important. More research is needed on patients' and their informal caregivers' knowledge and skills required in manipulating the advanced technology equipment adequately.

High-tech care must be put alongside 'high touch' care: this must be taken into consideration in nurse education programs. Nurses should assess patient's needs and preferences thoroughly. Consumer involvement should be strengthened.

3) Revisit the medicalization of home

The rationale of the rapid development of technology-enhanced home care should be reconsidered. There is not sufficient research on patient preferences, for example on situations where they would rather choose institutional care instead of home care. Technology-enhanced home care is also growing because of the increasing number of technology manufacturers.

Technological innovations in home care should include preventive and screening features. Issues relating to the user-friendliness of technical devices should be also examined from both the professional providers' and the patients' and their family members' viewpoints. When suffering from 'technology fever' one must not forget social innovations – such as self-help groups, respite care, etc. – that particularly support home care.

4) Support high quality research into the cost-effectiveness of home care

The effectiveness of different home care delivery models is not studied thoroughly. New evidence should be produced and existing knowledge synthesized. The results ought to be widely disseminated and discussed with practitioners, researchers and policy-makers. The authors suggest that specific forums should be established in which the cost-effectiveness of home care programs could be debated and some form of consensus reached.

evidence stating that some home care interventions are cost-effective, but opposing views have also been reported. Information on cost-effectiveness is important for clinicians and policy-makers, so they can consider the implications of substituting hospital care with home care services involving advanced technologies.

UNDERSTANDING PATIENTS' NEEDS

The authors point out that the use of sophisticated technology in home environments requires the expertise of secondary and tertiary level care providers as well as community-based home care skills. Understanding the needs of home care patients is essential. The available expertise of both community and hospital-based home care must be brought

together in order to provide specialized home care. In this way, care can be meaningful for patients and their family members and also effective from clinical and organizational perspectives.

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IMPAKTI

Newsletter of the Finnish Office for Health Technology Assessment

Bringing HTA into Practice

The 2nd Annual Meeting of Health Technology Assessment international (HTAI) will take place 20th–22nd June 2005, in Rome. It will focus on the role of HTA in technological innovation processes, addressing key questions. More information at www.htai.org

XIII Cochrane Colloquium

Cochrane Colloquia are occasions to reflect upon the achievements of the Cochrane Collaboration and to recognise the efforts of its many tireless contributors. The 13th Cochrane Colloquium 22nd–26th October 2005, in Melbourne. More information at www.colloquium.info.



The Finnish Office for Health Technology Assessment produces information to support decision-making.

The mission of FinOHTA is to promote the use of proper evidence-based technology in Finnish health care in order to enhance the effectiveness and impact of health care.

The Office was established in 1995. It is based in the National Research and Development Centre for Welfare and Health, STAKES.

The principles underlying our activities are:

- Independence
- Reliability
- Supporting significant decision-making
- Usability
- Collaboration
- Methodological support

FinOHTA Finnish Office for Health Technology Assessment

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