European Commission
DG XIII Telecommunications, information market, exploitation of research

TIDE programme
Technology Initiative for Disabled and Elderly people

HEART Final Report on Service Delivery

HEART (Horizontal European Activities in Rehabilitation Technology)[1] was a study initiated and funded by TIDE (Technology Initiative for Disabled and Elderly People), a Research and Development programme within Directorate General XIII (Telecommunications, Information Market, and Exploitation of Research)[2] at the European Commission. TIDE was intended to develop new technological tools and applications for people with disabilities and elderly people to assist them to live independently and participate fully in the social and economic activities of the community; it was also intended to reinforce the European assistive technology industry.

The HEART Study was carried out by a consortium of 21 institutions, organizations and companies in 12 countries, under the leadership of the Swedish Institute of Assistive Technology. The work was carried out during the period 1993-1995. The objective of the study was to survey the present situation regarding assistive technology in Europe and to propose actions to encourage cooperation, convergence and exchange. The Study explored six main subjects: a) Standards and Testing b) Assistive Technology Industry c) Service Delivery d) Legal and Economic Factors e) Training and f) Research and Development. Overall, it produced over 50 reports, books and brochures.

This report includes the most important findings and recommendations arising from LINE C of the Study, devoted to service delivery. Even if this report was produced almost twenty years ago, most of these findings and recommendation are still valid today: they can be helpful for analysing the service delivery systems that are in place today in the various EU Countries, as well as for discussing roadmaps for improvement. For this reason, here the Report it is reproduced in its original text, with the addition of some comments or footnotes that help to contextualise some obsolete statements and suggest possible how they should be re-interpreted today.

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[1] At the time in which the Commission opened the Call for this study, the most frequently used term to describe this subject was “rehabilitation technology”. The currently used term “assistive technology” was introduced later in EU documents. Indeed, the recommendation to differentiate “rehabilitation technology” (supporting rehabilitation treatment) from “assistive technology” (supporting independence in daily life, school, education etc.) arose in the HEART study: in fact the authors of this Report never use the term “rehabilitation technology” as they explain in their original footnotes.

[2] Now this Directorate doesn’t exist anymore: to a certain extent, it corresponds to the former Directorate General Information Society and Media (DG INFSO), now merged (1st July 2012) into DG CONNECT (European Commission Directorate General for Communications Networks, Content and Technology).

HEART Report C.5.1 (Final Report on Service Delivery)

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Reports produced within Line C of the HEART Study

Cl.1 Types of Service Delivery Systems
C2.1 Sector Selection for Service Delivery Study
C2.2 Procedure for Data Collection
C2.3 European Service Delivery Systems in Rehabilitation Technology
C3.1 Criteria for Service Delivery in Assistive Technology
C3.2 Models of Assistive Technology Service Delivery
C4.1 Guidelines for Service Delivery Evaluation
C4.2 Workshop on Service Delivery
C5.1 Final Report on Service Delivery
C5.2 Service Delivery of Assistive Technology in Europe
C6.1 Recommendations for Making Improvements in Service Delivery of Assistive Technology

EXECUTIVE SUMMARY

This report is the technical report of Line C in the HEART study. It gives an overall description of the work done, the results of the study and a number of recommendations for further actions in the field of service delivery in Europe.

The aim of Line C was to propose improvements in the process of assistive technology[3] service delivery in the European countries. These improvements should be directed at two different, but related targets: I) the stimulation of an international assistive technology market and 2) an ongoing improvement of the quality of the services. The idea was to develop quality criteria for and models of good service delivery, that might serve as a common frame of reference for the improvement of service delivery systems in the different countries. If such quality criteria and models are generally accepted and supported, they might stimulate convergence of the systems in Europe. That in turn facilitates the creation of an international market. It is believed that expansion of the assistive technology market to a European level would strongly stimulate the actors on the market to improve quality, to reduce prices, to involve users/consumers, etc.

The report consists of five chapters, the first is an introduction to the study.

This introductory chapter gives a descriptions of the goals of the study and information about the participants: Line C members, national contact centres with their sources in the countries involved, and the participants of the international workshop.

The second chapter of this report describes the study design and methods used. Generally speaking, the work of Line C can be divided into three phases.

As a first step, a description of the service delivery systems in Europe was made. Comprehensive descriptions of the systems in 16 countries as they were at the end of 1992, and short descriptions of two others were made. These descriptions have a standard format and structure, which facilitates comparison. They were published in HEART report C.2.3, "European Service Delivery Systems in Rehabilitation Technology". With this report Line C has tried to provide a good basis for international comparison and, more importantly, international (and national) discussions about good service delivery.

The second phase of the study was concerned with the development of quality criteria for good service delivery, the analysis of systems looking for good examples ("best practices") of elements of systems, procedures, etc., and an international workshop to start discussions in this field. The third phase was concerned with drawing conclusions and formulating recommendations.

The third chapter of the report describes the results of the study. The results are organised into three groups. First, the study resulted in relevant tools for describing and analyzing service delivery ystems and in descriptions of the systems in 18 countries. The quality criteria developed for analyzing the systems and also the structure for describing the systems appeared to be useful tools. The second is the numerous statements about features of good service delivery and recommendations for actions towards improvement of service delivery systems and procedures. Third, there are some important "spin-off' effects; the study raised interest and awareness among a group of key persons who are willing to further develop the field of service delivery.

[3] (footnote by the original authors) The HEART Consortium has decided to use the term assistive technology instead of rehabilitation technology in accordance with the change of terminology used by TIDE. The reason for this change is that we believe that the term assistive technology is more accurate. It conveys that the technology is used by people with disabilities to eliminate, ameliorate or compensate for functional limitations and not necessarily for the purpose of rehabilitation. This change does not imply a change in definition of the aim of the HEART study.

The fourth chapter contains a discussion of the results and conclusions. This chapter starts with a critical review of the study and ends with a section about how to continue the process started with this study. It is concluded that on the whole the study achieved its goals and resulted in valuable findings. With a view toward possible future studies some critical remarks are made. With respect to a follow-up of this study it is concluded that the work started with this study should be continued along two main lines. The first line is that of collecting and spreading information about service delivery and related subjects on a national as well as an international basis. The second line is a continuous process of quality improvement through discussions about the quality of service delivery, through education, through the exchange of knowledge and experience, etc. The proposed approach can be characterised as bottom-up, gradual, based on consensus and respecting the individual countries. In view of the support and cooperation received during the execution of the study, this approach appears to have a good chance of being successful. Essential for success, however, is the existence of some kind of structure or network which continuously pushes and stimulates these processes on a European level.

In the fifth and last chapter the recommendations following from the study are presented. They are grouped into three groups: recommendations concerned with a follow-up of Line C, recommendations concerned with the creation of international networks and the provision of information, including education and recommendations for new studies. The recommendations concerning follow-up of Line C and the creation and consolidation of networks are considered most important. The momentum created with this study should be used to give power to future actions in the field of service delivery.

INTRODUCTION

A general description of the study

This report is the technical report of Line C in the HEART study. It gives an overall description of the work done, the results of the study and a number of recommendations for further actions in the field of service delivery in Europe.

The aim of Line C was to propose improvements in the process of assistive technology service delivery in the European countries. These improvements should be directed at two different, but related targets: I) the stimulation of an international assistive technology market and 2) an ongoing improvement of the quality of the services.

The idea was to develop quality criteria for and models of good service delivery that might serve as a common frame of reference for the improvement of service delivery systems in the different countries, in other words to provide a common horizon or orientation. If such quality criteria and models are generally accepted and supported, they might stimulate convergence of the systems in Europe. That in turn facilitates the creation of an international market. It is believed that expansion of the assistive technology market to a European level would strongly stimulate the actors on the market to improve quality, to reduce prices, to involve users/consumers, etc.

Why should such a great effort be put in improving quality and expanding the market?

An urgent reason is that due to an ageing population a strongly growing demand for assistive technology and related services can be expected in the near future. Another is that the increasing use of new technology and the rapid advancement in technology can be expected to place special demands on the service delivery systems for assistive technology. In all countries the budgetary possibilities are currently decreasing or at least not growing. Service delivery systems are changing rapidly under the influence of social, technological and economic developments. Most countries are facing similar problems affecting their service delivery system(s). There are common trends in the reactions to these problems, but there does not seem to be much international cooperation in this respect.

To tackle these problems and to fulfil the needs of disabled and elderly people as much as possible, it is essential to increase the efficiency and the effectiveness of service delivery systems. Expansion of the market to a European level is one of the strategies to facilitate this; improving quality of services and processes is another.

In most countries the procedures and regulations with respect to the provision of technical aids are very complicated, and many different professionals and organisations are involved. There are good reasons to believe that efficiency of the service delivery systems in most countries can be improved.

There was, however, very little information available about how the different systems really work, so that a good discussion about efficiency and other aspects of quality was not possible, certainly not at a European level. There was no frame of reference for such a discussion. Line C's work has provided such information and a frame of reference.

Also with respect to the effectiveness there is good reason to believe that major improvements are possible. There is still a lot to be done in the field of quality and usability of technical aids, in the field of education of professionals involved in the service delivery process so that they keep up with new developments, and in the field of provision of information about technical aids and related subjects. Involving users in all aspects of the system will also lead to improved effectiveness.

Generally speaking, the work of Line C can be divided into three phases.

As a first step towards reaching the goals of the study, a description of the service delivery systems present in Europe was made. Comprehensive descriptions of the systems in 16 countries as they were at the end of 1992, and short descriptions of two others were made. These descriptions have a

standard format and structure, which facilitates comparison. They were published in HEART report C.2.3, "European Service Delivery Systems in Rehabilitation Technology". With this report Line C has tried to provide a good basis for international comparison and, more important, international (and national) discussions about good service delivery.

The second phase of the study was concerned with the development of quality criteria for good service delivery, the analysis of systems looking for good examples ("best practices") of elements of systems, procedures, etc., and an international workshop to start discussions in this field .

The third phase was concerned with drawing conclusions and formulating recommendations.

Structure of the report

After this introductory chapter there are four chapters. The first describes the study design and methods used. This chapter gives an explanation of what was done and why. The second chapter describes the results of the study. There are four sections: one about results in terms of the instruments developed, two with results from the international workshop at the end of the study and a last section describing so called spin-off effects of the study. The third chapter contains a discussion of the results and conclusions.

This chapter starts with a critical review of the study as it was performed and ends with a section about how to continue the process started with this study. In the last chapter the recommendations following from the study are presented.

Participants in the study

Many institutes, organisations and individuals contributed to the study. Only internationally recognised and supported quality criteria have a chance to be accepted as a common frame of reference for improvements of service delivery systems. That is why the participation of representatives from the EU and EFTA countries was essential for the study. The involvement of users/consumers was also crucial, as well as that of professionals actively involved in service delivery.

The work of Line C within the framework of the total HEART study was coordinated by IRV in Hoensbroek, The Netherlands. Other members of Line C were the Swedish Handicap Institute in Stockholm and SIVA in Milano, Italy. These three institutes are primarily responsible for the work.

A very essential role was played by the 16 national contact centres in the countries involved. In each country one centre was contracted to provide the necessary information about the service delivery systems (actually writing the descriptions of the systems) and also to take part in the international workshop. These centres have involved a lot of other persons and organisations in their work; some interviewed many people in order to obtain the information and all national contacts asked user organisations to react and comment on their description. In this way a large number of people were involved in the work.

A third group of participants are the workshop participants: all national contacts, some invited experts, the members of the HEART Consumer Board and invited representatives from relevant organisations in the service delivery systems from all countries involved. About 50 participants from 18 countries were involved in the discussion of the quality criteria for service delivery and the formulation of conclusions and recommendations.

Looking at the list of participants in the study it is clear that the ideas and proposals reflected in this report are based on the input of a large group of experts in the field.

STUDY DESIGN AND METHODS

As described in the introduction there were three major phases in the study.

The first phase was the description of the service delivery systems present in Europe. For this phase a systematic data collection procedure was followed. The second phase was the development of quality criteria, the study of the systems and the discussion and formulation of recommendations during an international workshop. The third phase was the conclusion and the formulation of the recommendations on the basis of the whole study.

The steps in the data collection procedure and in the other phases of the study are described below.

Phase I: Description of service delivery systems

Step 1: defining the scope of the study

Since service delivery systems are very complicated in most of the countries, it was necessary to restrict the scope of the study to comprehensible proportions. This was done in two ways.

First of all it was decided to focus on assistive technology and related resources, and to exclude resources apart from assistive technology. Service delivery was defined as "*The complexity of processes that act as an intermediate between the needs of an individual with a disability or impairment and existing resources and rehabilitation technology (assistive technology)".*

The second restriction was the choice of a limited number of assistive technology segments to be studied. The segments chosen were:

- computer peripherals for the blind (ISO 21 09);
- technical aids for washing, bathing and showering (ISO 09 33);
- manual wheelchairs (ISO 12 21);
- communication devices for speech impaired persons (ISO 21 42);
- telephone devices for the deaf (ISO 21 36).

The service delivery processes were described in detail for these five segments. The choice of these segments was made in agreement with the TIDE office, after discussion with the HEART Consumer Board and the Main Contractor. The criteria used for the selection were the following:

- only products within the ISO 9999 classification of technical aids that are available on the market;
- the selected segments should be representative for other segments within the ISO classification;
- segments should be chosen within assistive devices (classes 06-30);
- they should have a substantial impact on the assistive technology market;
- segments should come from the market of products specially made for elderly and disabled people and the market of products which are highly adaptable to the single user;
- segments chosen should meet the needs of different types of impairments;
- both high and low technology should be represented;
- there should be segments with expensive and inexpensive technology;
- the selection of segments should address the technological scope of the TIDE programme as much as possible.

HEART Line C report C.2.1 "Sector Selection for Service Delivery Study" describes the procedure, criteria and result of the selection of the five segments mentioned.

Step 2: development of guidelines for the descriptions

In order to standardise the descriptions and to make them comparable, a set of specific guidelines for the description of the systems was developed. These guidelines offered a fixed structure for the descriptions. In each description a specific list of questions was to be answered. The guidelines are described in HEART Line C report c.1.1 "Types of Service Delivery Systems" . Besides enhancing the coherence and comparability of the descriptions, the guidelines also helped limit the scope of the study. The guidelines were developed on the basis of available literature and discussions with some internal and external experts.

The format for the descriptions consists of four parts and two appendices.

Part I is a general description of the infrastructure. Topics dealt with here are national policy with respect to disabled and elderly people, scope and complexity of the service delivery system, relevant legislation, organisations involved, products included in the delivery system, availability of information, education of professionals involved, and user influence. There are also sections about the approach towards innovation, expected future developments, and the impact of the service delivery system on the assistive technology market.

Part II is a more detailed description of the service delivery process for the five selected segments of assistive technology. The process is described in terms of seven steps:

- Initiative
- Assessment
- typology of the solution
- selection
- authorization for financing
- delivery
- management and follow-up.

For each of these steps information is given concerning people involved in the step, procedures followed, duration of the step, the role of the user, etc.

Part III consists of ten hypothetical case studies about actual practice. They describe what happens to a specific person when he/she needs a specific technical aid. This part is meant as a "real life" illustration of the process described in part H.

The fourth part (part IV) contains quantitative information about the systems. Figures given are basic data about the population, national income, number of technical aids available, total amount of money spent on assistive technology, administrative costs of the system, and the numbers of producers, national suppliers and retailers in the country. These figures are only given as far as they were available; no effort was made to produce new figures.

The appendices contain a list of literature and other sources used for the description (appendix 1) and comments from user/consumer organisations (appendix 2).

Step 3: working drafts

The Line C participants made working draft descriptions of each country, as far as possible on the basis of available literature and data bases. Literature about the service delivery systems in all countries involved was surveyed. For this purpose the countries were divided between the three participating institutes; each was responsible for five or six countries.

The three "home countries" of Line C participants were described in more detail, to serve as an example for the other countries. These "model" descriptions are included as an appendix in HEART Line C report C.2.1 "Types of Service Delivery Systems".

Step 4: meeting with national contact centres

In October 1993 there was a meeting with representatives from the national contact centres in Düsseldorf. These centres were contracted to collect information and to write the descriptions. During the meeting the HEART study was presented and the guidelines for the work were explained. Apart from a plenary meeting there were individual meetings with each representative, giving the opportunity to discuss specific problems or questions.

Step 5: writing final descriptions

With the working draft descriptions made by the Line C participants the national contacts centres started their work. They were asked to make additions and corrections wherever this was necessary. Within two months the national contact persons sent their draft description of the system(s) to the Line C participant who had written the first working draft. In discussion with the national contacts, unclear parts were clarified, the structure and format were standardised, additional information was requested if necessary, and the English was improved in some cases.

Step 6: collecting user/consumer comments

The national contact centres sent the draft descriptions to one or more user/consumer organisations in each country for comments. These comments were added to the descriptions as an appendix. It was stressed that the organisations commenting should beorganisations of users. The national contacts were free to choose these organisations. It was felt unnecessary to control this phase. The user/consumer organisations had very little time for their work, not all of them are used to giving official comments and most of them have difficulty with the English language. Therefore it was considered wise to rely on the national contacts who all have their own relationships with user/consumer organisations.

The result of this six step procedure was presented in HEART Line C report C.2.3, "***European Service Delivery Systems In Rehabilitation Technology***". Not every national contact centre followed theprocedure described above in detail, and the Guidelines for the descriptions were not always followed exactly. Generally speaking, however, the national contacts made a very serious attempt to provide good and complete descriptions.

Austria and Iceland were not included in the study. For reasons of completeness it was decided to add a short description of the systems in these countries to the report, although there were no extra resources available for this purpose. For these countries the line C participants made a short and very general description on the basis of literature and personal contacts. These descriptions were sent to institutes in the respective countries for a general check on the content.

Phase 2: Development of quality criteria, analysis of the systems and international workshop

The second main phase of the study was concerned with the analysis of the systems and the preparation of an international workshop. The question of how to analyze the descriptions was one of the most difficult problems in the study. In the original plans for the study a cost-effectiveness analysis was included and it was suggested that one "optimal" model for service delivery was to be developed. Very soon it was recognised that there were problems with this approach. A cost-effectiveness analysis on the level of service delivery systems is almost impossible because of the present lack of necessary data. The development of one single model is almost impossible because of the political, social, cultural and economic differences between the countries involved. During the course of the study it was decided not to try and develop one "optimal" model, but to follow the approach of benchmarking, by finding 'good examples ("best practices") of elements of systems,

procedures etc, This means that the focus is not on how service delivery should be organised, but how certain aspects can be organised, with real practice as a basis. This phase of the study can be divided in four steps.

Step 1: development of quality criteria and a procedure for the analysis

It was decided to focus the analysis primarily on the quality of the service delivery systems and processes. The service delivery systems were studied from the viewpoint of some general aspects of quality of service. No quantitative methodology or statistics were used. On the basis of the descriptions of the systems available from the first phase of the study, we searched for good examples of aspects of the service delivery processes and/or systems, from the perspective of the quality criteria chosen. The procedure focused on identifying possible solutions with their advantages for certain aspects in the systems. It was not the intention to judge any of the countries or systems.

The procedure followed can be summarised as follows:

- First, the criteria to be used for the analysis were defined on the basis of discussions within the Line, a survey of the literature on quality of services and quality of care, and a close look at the information available in the descriptions of each country. For each criterion a set of indicators was defined. The criteria chosen were: accessibility, competence, coordination, efficiency, flexibility and user influence. Details about the procedure for selecting these criteria and their indicators are presented in HEART Line C report C.3.1, "Criteria for Service Delivery in Assistive technology". In the chapter "Results" of the present report the criteria are described.
- The criteria were divided among the Line C participants in such a way that each criterion was studied by at least two persons from different institutes.
- When reading/analyzing the descriptions each participant made a brief summary of how the criterion under study was described/met. For example, how accessible a certain system is or the way in which the user has influence on the process. These summaries addressed all specific aspects (indicators) of the criteria.
- The two summaries for each of the countries made by the two "analyzers" were confronted with each other. On the basis of consensus they were combined into one summary.
- The systems found in the 16 countries were compared with respect to the criterion under study and good examples were chosen. This was done by the two "judges" together. Their conclusions were discussed during a line meeting.

Step 2: writing discussion papers for the workshop

The short summary of each criteria produced in step 1, were used to write a discussion paper about these criteria and the way they are met in different systems in Europe. These papers, together with the selection of "best practices" served as the basis for discussion at the international workshop. In the discussion papers different solutions and common problems in the service delivery systems are presented. The individual countries are not discussed as such; only some examples from the countries are given. The discussion papers were presented in HEART report, C.3.2, "Models of Assistive Technology Service Delivery".

Step 3: preparing the workshop

Parallel to the analysis of the service delivery systems and the preparation of discussion papers, organisational arrangements for the three-day workshop in Belluno, Italy, were made.

The programme had four parts. First there was an introduction with information about the HEART study in general, Line C in more detail, and the scope of the workshop.

The second part consisted of six discussion groups. These were organised in two blocks of three parallel sessions. This means that each participant took part in two groups. The participants were

divided into the groups on the basis of their background and specialty, with a good distribution of the nationalities. The discussion papers produced in step 2 of this phase – "Criteria for Service Delivery in Assistive Technology" which presents the criteria and procedure followed in writing the discussion papers and "European Service Delivery Systems in Rehabilitation Technology" which describes the service delivery systems – were sent to all participants in advance. The discussion papers were used to guide the discussions.

The third part of the workshop consisted of presentations by invited experts. These were planned to give some extra perspectives for the plenary discussion.

The fourth part was a plenary discussion, based on the results of the working groups and the input from the invited speakers.

A lot of attention was given to the selection of the participants. There were different groups of participants. The first were representatives of the national contact centres, who had been responsible for the description of the service delivery systems. The second group were invited representatives of important administrative or governmental organisations involved in service delivery in each of the countries. These persons were selected by the national contact centres in consultation with Line C. The third group were the members of the HEART Consumer Board. Fourthly there were invited experts, the members of Line C and members of the HEART Consortium. A list of the participants is given in appendix 1.

Step 4: the workshop itself

The workshop ran smoothly; the participants were very enthusiastic. The discussion papers were thoroughly discussed and there were interesting presentations by the invited speakers. The workshop resulted in many statements about good service delivery and recommendations for further (European) action in the field of service delivery. With a view on structuring the plenary discussion at the end of the workshop the participants were asked to select the statements they supported most and the recommendations they considered most important. This was done by means of a kind of "voting" procedure. The statements and recommendations which received the most votes were discussed during the plenary session.

The practical organisation of the workshop was taken care of by SIVA (Fondazione Don Carlo Gnocchi), Milano, in close cooperation with Centro Studio Prisma, Belluno. The Proceedings of the workshop, containing the presentations by the invited speakers, reports from the discussion groups and a report of the plenary discussions have been published as a separate report.

Phase 3: Drawing conclusions and formulating recommendations

The last phase in the study concerned conclusions and recommendations. All statements and recommendations suggested during the workshop were discussed within Line C. Conclusions from the experiences during the whole study were added and priorities were set. The result of this phase is represented in this report.

RESULTS

The results of the study can be grouped into three somewhat different groups. First, the study resulted in relevant tools for describing and analyzing service delivery systems and in descriptions of the systems in 18 countries. The second group of results are statements about features of good service delivery and recommendations for actions towards improvement of service delivery systems and procedures. Third, there are some important "spin-off' effects. In this chapter the results considered relevant by Line C are presented.

Tools for describing and analyzing service delivery systems

One of the obvious results of the study is the fact that Line C developed guidelines for the description of service delivery systems and also a number of quality criteria that can be used for an evaluation of systems.

Although improvements are possible and at some points necessary, the structure developed for describing both the systems in general and the service delivery process appeared to be useful for the purpose. Especially the seven steps distinguished in the service delivery process (initiative, assessment, typology of the solution, selection, authorization for financing, delivery, and management and follow-up) offered a good basis for international discussion and comparison.

The general quality criteria chosen for studying the systems also appeared to be relevant tools. Although other criteria might be added, these six in principal were a good basis for discussion. It is worthwhile to elaborate on these quality criteria; some need to be defined more precisely and the overlap between them needs to be clarified. A recommendation for continued work is given further on in this report.

A special element of the descriptions of the service delivery systems were comments from user/consumer organisations. These user comments offered very relevant information and perspectives. They on their own are an interesting result of the study.

Service delivery from a quality perspective

The main purpose of the workshop was to discuss service delivery and to formulate statements and recommendations. As described in the chapter "Study design and methods", the workshop was organised along the lines of the six quality criteria. There were discussion groups for each of these criteria. The discussions were prepared and guided by means of discussion papers. Each working group was given two tasks ; firstly they had to formulate statements about good service delivery from the perspective of the criterion discussed and secondly they had to propose specific (European) actions towards improving the situation. In the plenary discussion at the end of the workshop these statements and proposals were discussed and some were added.

In this chapter the statements about good service delivery are presented. Each of the criteria is briefly described, together with the indicators used in the analysis. Then the resulting statements about good service delivery are presented.

Accessibility

Accessibility of the service delivery system was studied and discussed from the perspective of the (potential) user. From the user's point of view it is fundamental that no one is excluded from the services or in any other way discriminated. It is essential that the needs of the user guide accessibility and that funds are available for assistive technology. It is important that people know that there is a service delivery system, that technical aids exist, and where to go to make the first contact in order

to access the system. Once the contact is established it should be easy to get appropriate technical aids without unnecessary delay. The indicators of accessibility used were the scope of the system (who benefits, age differences, Insurance differences etc.), simplicity of the system, information available to the public, financial barriers and costs for the user, the duration of the process and the complexity of the procedures. These aspects have been specifically studied for all the systems described, identifying solutions that might serve as good examples.

One of the important conclusions from the analysis was that there are great variations between – and sometimes also within - Countries, as to who benefits from the public service delivery system. There are unequal opportunities for obtaining technical aids, dependent on such factors as age, geographic differences, cause of disability, political ambitions, culture and the extent that technical aids are considered as an essential part of rehabilitation. Questions discussed in the working group at the workshop concerned, among other subjects, the need for special legislation to avoid discrimination, ways to promote assistive technology, ways to "guide" users through the often complicated systems and procedures, the need for public information about the service delivery system and about assistive technology, and ways to control the duration of the process. The discussion concentrated on the indicators scope, information, simplicity and duration.

The discussion in the working groups resulted in eight statements about good quality of service delivery from the perspective of accessibility.

1. Access to the service delivery system and the provision of technical aids should be based on individual needs resulting from disability and independent of the kind of disability, age, etc.
2. One "door to knock" should be sufficient to gain access to the system and start the procedure.
3. General information on where to turn and detailed information on specific systems and services should be available and accessible to all potential users.
4. The process of obtaining assistive technology has to be clear and understandable to the user.
5. In order to improve accessibility, information and resource centres should be set up and supported.
6. Information services should be located in relevant places close to the citizens (in all geographic areas, in relevant public places, homes, etc), in order to increase availability.
7. Limits on waiting times should be introduced on administrative and financial aspects of the process. Limited waiting times should however not hinder the quality of the service.
8. The user should have the right to appeal.

After internal discussion Line C added one other statement, on the basis of the analysis of the systems.

9. There should be no financial hinders for those who need a technical aid.

In the "voting" procedure at the end of the workshop the second statement in this list, about a "one-knock system", was among the ten statements receiving most votes.

Competence

There are many different kinds of professionals active in the field of assistive technology. This makes competence a very crucial quality criterion. A service delivery system is as competent as its actors. Competence was defined as the availability of knowledge, skills and experience necessary to serve the client. Six indicators were used to study this aspect of the service delivery systems: the educational level of the professionals involved, the possibilities for further education, the use of protocols and standards In the process, access to information about assistive technology, the possibility to learn from user feedback, and decision-making power of different actors in the steps in the process. With these indicators it was felt that the most relevant aspects of competence were covered.

The questions presented at the workshop were, among others, about the organisation and financing of further education, the advantages and disadvantages of protocols and standard solutions, the organisation and accessibility of information provision, and the importance of research.

The discussion resulted In ten statements about competence.

1. Centres of excellence, e.g. specialised in disability groups or specific aspects of technology, should cooperate in order to increase competence and disseminate information on international basis.
2. Education about assistive technology should be included in the basic education of the professionals involved in service delivery.
3. Continuing training is necessary for all the professionals involved.
4. In the education and training of the professionals there should be user involvement.
5. Prescription of technical aids should not be based upon a medical model. In the selection process medical, functional, social and other aspects should be taken into account. According to this, the multi disciplinary team approach is the most appropriate.
6. The information provision infrastructure must be a substantial part of the service delivery system and provide information to all the actors involved in the processes of service delivery. The provided information should be independent from the system and from commercial influences.
7. Umbrella organisations and special interest groups should organise information exchange between companies and professionals and users.
8. Good protocols of the process of service delivery can guarantee the fulfilment of quality standards and meeting requirements in service delivery. Good protocols are linked to the process and not to the professions involved. Good protocols must be: public, usable for the education of professionals, help the professionals and give the users the opportunity to know what they can expect from the professional involved.
9. The user should be educated to be a partner in the process, by the provision of independent and objective information and advice.

On the basis of the discussion paper and internal discussions in Line C one statement was added.

10. A multi disciplinary approach is the most appropriate in the design of research and development programmes in this field. Special attention is necessary for transferring the outcome of research and development to all actors involved in service delivery.

Statements 1, 2 and 5 in this list were among the ten most supported statements in the voting procedure at the workshop.

Coordination

Coordination is probably one of the most difficult criteria. The word is very often used in many different meanings and contexts. For the analysis three different contexts or levels of coordination were distinguished: coordination within the primary process of service delivery (everything "around" the individual user or client; ***micro level***), coordination of the service delivery system itself (all professionals working harmoniously together; ***meso level***) and coordination between the service delivery system and other parties within the assitive technology market (***macro level***).

The analysis was aimed at finding different ways and means that are used for coordination at these three levels. Examples of subjects addressed in the discussion paper are the (conflicting?) relationship between coordination and flexibility, approaches for horizontal coordination between decentralised services, the (negative?) interaction of coordination with other quality criteria like accessibility and competence and the balance between coordination and bureaucracy.

The discussion concentrated on the micro and meso level of coordination, although the distinction between the three levels was not always clearly made. The discussion resulted in seven statements about coordination.

1. A guiding person should be available to coordinate the service delivery process for the user.
2. There should be established procedures that are clear and well known, used in a non-mandatory way and evaluated regularly.
3. The role of professionals should be transparent; responsibilities should be clearly demarcated.
4. A service delivery system should be self-correcting: an appeal system, ombudsmen, and/or similar institutes are substantial tools for self-correction.
5. There should be a national independent structure for the coordination of research and development of assistive technology and service delivery.
6. There should be a national policy (legislation) to ensure the rights of the disabled and to ensure coordination within the Service Delivery System.
7. There should be an interdepartmental body at the highest appropriate government level with full responsibility to implement the policy.

In the voting procedure at the workshop statements 5 and 6 received much support. They were among the ten statements receiving most votes.

Efficiency

The analysis of the service delivery systems from the perspective of efficiency was a challenge because of the complexity of the systems and because there was little specific information about efficiency in the descriptions of the systems. An important choice was to focus on efficiency from the user's perspective. An efficient system from the point of view of a user is based on features like low costs for the user, direct involvement in all procedures, no bureaucracy, accessibility to information, maximum service, etc. These features are not always in line and sometimes conflicting with features defined from the point of view of the service delivery system: low costs, high level of control, and standardised procedures. Five indicators were used to study the efficiency of the systems: complexity of procedures and regulations, duration of the process, control of the system over the process, the presence of mechanisms to control costs and effectiveness, and the question whether decisions in the process are being made at the appropriate level of competence. It is clear that these indicators are strongly related to the other criteria used, especially accessibility and competence.

The discussion paper posed many questions related to efficiency. The discussion group at the workshop decided to discuss efficiency from a wider perspective than that of the user alone. An interesting statement at the beginning of the discussion was that efficiency of the system is dependent on all other quality criteria mentioned; if all other criteria are met, the system will be efficient. Efficiency was defined as follows: *efficiency is to arrive at the best solution for the most people, using the available resources of a system in the shortest time and at least cost*.

The statements about good service delivery formulated by the working group on efficiency are listed below.

1. A first assessment of needs is required in as early a stage of the process as possible. This assessment includes identification of problems and solutions, and information to the user in order to enable him to decide if he wants to initiate the process (e.g. possible solutions, procedures, costs).
2. The system should enable the users themselves to make responsible choices.
3. There is a need for individual follow–up after the provision of a technical aid (evaluation).
4. Lists of technical aids and protocols are useful for guiding professionals and users within the system, but the individual solution cannot be standardised: it must be related to individual needs.
5. Service delivery systems should include systems or procedures for self-correcting quality control of the process and the outcome.

On the basis of the discussion paper Line C added three other statements.

6. An efficient system has to have clear goals, methods for evaluation, adequate data and feedback from all actors of the system.
7. Close cooperation between all the different actors is necessary for an efficient system.
8. A system is efficient when the user can access by "knocking on one door", without long waiting lists.

The fifth statement in this list, about self-correcting quality control, received very much support from the participants of the workshop.

Flexibility

As in the other criteria, flexibility was mainly studied and discussed from the point of view on the user. In this case, however, the interests of the user are strongly connected to those of other parties like producers and researchers. Flexibility of a service delivery system was defined as follows:

A service delivery system is flexible when:

- a potential user can obtain a device that meets his/her needs.
- a producer/importer can get a device tested at a reasonable cost and within reasonable time, and get into the market (=understand the mechanics of the system, find potential users, etc.)
- researchers and developers can get support for their work; coordinate their work; cooperate and communicate with users, designers, producers; utilize new technology to meet needs.

Questions to the working groups concerned four topics: the advantages and disadvantages of having lists of devices that can be provided by the system, ways to encourage flexible attitudes, ways to stimulate and support research and development and ways to facilitate international trade. The working group reached three statements about flexibility, the first of which was among the ten statements that received the most votes in the voting procedure at the workshop.

1. Every service delivery system needs some system of quality assurance. This is even more urgent when flexibility increases (e.g. through decentralisation).
2. A good service delivery system involves the use of a multi–disciplinary rehabilitation plan, tailored to the needs of the individual.
3. A common approach to testing would facilitate entrance of products on national markets and thus improve flexibility of the service delivery system.

User influence

User influence was studied on the basis of six indicators: the presence and strength of user organisations, juridical protection / legal rights, involvement of users at a policy level, user empowerment, communication with the user in the service delivery process and the influence of the user on decisions in the process. From the general view of this study it is of course difficult to know how much real influence users have on various aspects of service delivery. Nonetheless, characteristics of systems can be identified that affect user influence. That is what the analysis focused on.

In the discussion paper three spheres of influence were distinguished: legislation and political representation, the service delivery process (individual) and research and development. Questions presented to the working group concerned topics like who is the "watchdog" for the rights of disabled, the attitude of professionals towards users, mechanisms for user feedback in the service delivery process, ways to financially support user organisations and the advantages and disadvantages of umbrella organisations of user organisations.

The discussion group started with making a distinction between different levels of user influence.

User influence is possible at a variety of levels, each requiring a different organisational scheme and each being appropriate to different situations and circumstances. The discussion group concluded

that each of these levels should be stimulated: 1) individual users; 2) panels of experts; 3) organisations of users; 4) organisations of persons who bear the problems, e.g. parent organisations; 5) organisations for specific disability issues or problems (advisory committees).

The discussion in the working groups resulted in six statements about good service delivery.

1. The user is the best judge of whether a specific technical solution to a functional limitation is good.
2. A good service delivery process is designed in a way that empowers users to make their own choices. This can be done by: a) educating professionals to have an attitude of equity towards users; b) providing information and consultation to enable users to make responsible choices; c) allowing users to try out products for a reasonable time before making the final choice; d) providing the possibility, to both users and professionals, to change decisions that have been made.
3. The rights of disabled persons to appropriate assistive technology should be ensured by: a) adequate legislation; b) accompanying financial means; c) platforms (e.g. advisory committees) at local, national and/or European level promoting and monitoring regulations and practices; d) statutory bodies to ensure and protect the rights of individuals (right to appeal).
4. User influence could be facilitated by providing financial resources at two levels: a) providing individual users with their own budget to use towards services and devices; b) providing user organisations with financial support which may be earmarked for specific uses or open for whatever the organisation sees as most important.
5. The search for good technical solutions to the limitations of disabled persons can be facilitated by the involvement of disabled persons.
6. In a good service delivery system, user influence in research and development is organised on three levels: a) mechanisms to systematically collect individual user feedback, e.g. through panels of expert users; b) user involvement in specific projects; c) user involvement in defining priorities in Research and Development programs.

On the basis of the discussion paper Line C added one more statement.

7. In designing a service delivery system the general level of education of the population, as well as the educational opportunities available to people with disabilities, have to be taken into account.

The statements 2, 3 and 6a were supported by many of the participants of the workshop. These were among the ten most supported statements.

Proposals for action towards improvement

In the following section the proposals for action, most of which are on a European level, made by the working groups and in the plenary sessions at the workshop are presented. Again this is done criterion by criterion. A synthesis of all proposals, also those following from other results of the study, is given in the last chapter of this report.

Accessibility

The working group came to four proposals for European action towards improving the accessibility of service delivery systems.

1. A European structure for dissemination of information and knowledge exchange with respect to European research and development and good practices in e.g. service delivery, technical aids etc, is recommended.
2. This structure should stimulate networking and exchange of experience and ideas between relevant actors such as user groups, researchers, service providers decision makers, etc. This can be done through seminars, workshops and networks aimed at the exchange of good practice. Resources are required for this.
3. The current HANDYNET[4] system should be made more available and accessible to the public. Other ways of information provision should also be explored and stimulated. The Commission has a major role to play in providing information on devices and systems for people with disabilities.
4. Actions are required to stimulate national and European awareness of (accessibility in) service delivery systems, and to promote research programmes in this field.

On the basis of the discussion paper and internal discussions Line C added two extra proposals:

5. Since movement across the borders is one of the fundamental points in the Treaty of the EU, it is recommended to study the possibilities for users to get access to service delivery systems in other than their own countries (e.g.: maintenance and repair of technical aids). This seems to be a "grey area".
6. Bureaucratic rules and complicated financial rules and administrative barriers often extend the duration of the provision of technical aids and can even be a barrier. It is recommended

[4] HANDYNET was a project carried out by the European Commission (Directorate General 5 "Employment, Social Affairs and Inclusion") within the HELIOS programme (1988-2006), in the attempt to create a European database on Assistive Technology products. The project was able to achieve a first release of a EU database CD-ROM, relying on data provided by some national databases existing at that time; however, it was not able to implement a long-term sustainability strategy and was thus terminated. A major spin-off effect was that it helped disseminate awareness in all EU Countries on the role of assistive technology, on the need for public information system, and on the importance of having assessment centres where users could find the expertise needed to assist the selection and choice of the appropriate AT solution that could meet the individual need. Several years later (2003) the providers of the major databases that had previously taken part in the Handynet projects decided to take again the challenge, and gave birth to a self-supported international working group called "International Alliance of Assistive Technology Information Providers" (www.ati-alliance.net). Thanks to the support of the eTEN programme of the European Commission, in 1994-95 the European members of the Alliance – under the leadership of the Don Gnocchi Foundation in Italy – worked at the development of the European Assistive Technology Information System (EASTIN), which was successfully completed. Indeed the EASTIN system (www.eastin.eu) is the fulfilment of the "handynet dream", which has been possible in the Internet age. Currently EASTIN provides continuously-updated information on about 70.000 assistive technology products available in the EU market; it is accessible in all EU languages due to advanced language technology facilities; it is operated by the EASTIN Association – an International Body whose members are the Institutions running the major public Assistive Technology databases in various EU Countries.

that the European Union and member states set aside funds for studies of financial and administrative procedures. These studies should include pilot projects.

Competence

The discussion in the working group on competence lead to three major proposals for future action.

1. It is recommended to organise courses and training on an international level, without forgetting the national, cultural and regional influences. This gives opportunities to professionals to exchange on international level. Such courses should include the following topics: 1) methodologies of assessment; 2) new possibilities and technologies; 3) management aspects within service delivery systems. Organisations of professionals, users, schools and universities should be involved to set minimum requirements for further education.
2. It is recommended to make an inventory of existing centres of excellence (special resource centres) throughout Europe.
3. It is recommended to initiate the creation of an international network between these centres to stimulate international and regional cooperation and exchange.

Coordination

There were two proposals for future action in the discussion group on coordination. These were:

4. There should be a European structure for coordination and dissemination of information and knowledge with respect to: a) European assistive technology and research and development. B) good practices in service delivery systems, technical aids, etc ..
5. It is recommended to initiate a study on what is the best kind of structure for this purpose.

Efficiency

There was one proposal for future action in the working group on efficiency.

1. Service delivery systems should develop systems or procedures for self-correcting quality control of the process and the outcome. Therefore the development of tools, procedures and expertise for self- regulating systems is recommended.

Flexibility

Four proposals for action were formulated:

1. Maintenance and repair is a common challenge. More study is needed to find good solutions (e.g. as an aspect of testing).
2. There should be European development plans for the needs of people with uncommon disabilities and uncommon technical aids.
3. More research should be done concerning service and product delivery.
4. Training in research methods should be included in basis education. There should be research opportunities on a clinical level.

User influence

There was one recommendation for future action in this field.

1. There is a lack of systematic procedures for collecting user feedback all over Europe. Specific actions should be taken to develop common methodologies for this.

Line C added two other recommendations on the basis of internal discussions.

2. It is recommended that the Commission sets aside funds to carry out studies on user involvement in service delivery of technical aids. These studies should include actions to raise

awareness of the issues involved with service delivery among user organisations and pilot projects where users and user organisations together with administration try innovative approaches to user involvement in service delivery.

3. A pilot project on European level is recommended to investigate suitable financial support to user organisations for increasing their influence in the service delivery system.

Proposals coming out of the plenary discussion

On the basis of the voting procedure described in the chapter "general approach and methodology", a limited number of the recommendations presented above were selected for the plenary discussion. These were the following: nrs. 1 and 2 from accessibility, all proposals from competence, nr. 1 from coordination, nr. 1 from efficiency, nr. 2 from flexibility and nr. 1 from user influence. In the discussion it became clear that they received a lot of support. In the plenary discussion seven recommendations were formulated.

1. European collaborative research projects should be initiated for developing methodologies and procedures to be embedded in the SDSs for systematic collecting and processing individual user feedback. Such projects should include pilots and test-beds of good practice.
2. Development of measuring tools (to be embedded in the accounting systems of SDSs) for taking into account not only what that system is doing, but also why (as a key to build a self-regulating system).
3. HANDYNET[5] should be part of a wider strategy (or structure) for transferring information and knowledge. That strategy should include also other channels, like awareness campaigns, other databases seminars, etc.. TIDE should take the responsibility to initiate such strategy.
4. There should be European action networking information centres, technology transfer centres, market advisory centres in the field of AT, developing common protocols of information/technology transfer activities[6].
5. There should be European action develop and validate protocols for selection/prescription process.
6. The Commission should continue stimulate and support projects within whole range of assistive technology; moreover, disability issues should be taken into account in all other programmes supported and implemented by the Commission.
7. A network of non-governmental organisations should be created at European level[7].

Spin-off effects

Besides the descriptions of the service delivery systems in Europe and a large number of statements about the quality of service delivery and important recommendations, the study had some other important effects worth mentioning here.

1. All national contact centres supported the work with remarkable enthusiasm. This indicates that this was an important study, considered relevant by leading centres in the field.

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[5] See previous footnote on EASTIN as the fulfillment of the old Handynet vision.

[6] Since that time a great amount of AT assessment Centre have been established in various Countries. In some Countries they are already taking part in national networks, such as ASSIST UK in the United Kingdom, GLIC in Italy,

[7] Several EU organisations or network have been established in the past twenty years that have a say on this subject. Some of them have been initially supported by the European Commission, some other have been established independently on the initiative of their members. The most relevant ones are the European Disability Forum (EDF, representing users), the European Association of Service Providers for persons with disabilities (EASPD, representing local service providers), the European Platform for Rehabilitation (EPR, representing selected Rehabilitation Institutions). The European interdisciplinary scientific society on Assistive Technology (AAATE) was also founded in 1995.

2. The same goes for the participants of the workshop in Belluno. This workshop was a success in various respects. Apart from a considerable number of relevant proposals and recommendations, it a) raised interest and awareness among a group of key persons, willing to further develop the field; b) contributed to a common understanding about major problems in the field of service delivery; c) was an important step in creating an international platform for discussion and exchange in the field (such a platform does not yet exist).
3. Many countries had not documented their service delivery systems before this study.

The descriptions can be an important document for spreading information.

The work of Line C apparently stimulated discussion about service delivery on an international level and, according to reactions of many workshop participants in each of the countries as well. The momentum created with this study should really be used to give power to future actions in this field. It is therefore strongly recommended to continue the work started with this study. In the chapter "Recommendations" this will be further specified.

CONCLUSIONS

In the previous chapter the results of the study were described. A large number of statements and recommendations were presented. They came from different discussion groups which were organised according to the criteria and thus there are overlaps. In this chapter the results are discussed and combined into a more limited number of conclusions. The recommendations following from these conclusions are presented in a separate chapter.

Evaluation of the study

This study was a completely new endeavour in the field of service delivery. No examples were available. The objective was very general and the work-plan contained several uncertainties. With a view on possible future studies it is good to evaluate the design and methods used.

On the whole, the study achieved its goals and resulted in some very valuable results. Of course some problems were encountered. In this section some critical remarks about the work done are given.

1. The national contact centres participating in the study have very different profiles. This implies that the systems may have been described from different perspectives, with different interpretations and emphasis as a possible result.
2. It was difficult to find national representative institutes, having all the information necessary for the study. Most countries do not have one centre with such information.
3. Information about service delivery systems in the countries was often difficult to obtain. Literature about it is scarce, not well accessible and not always "in the hands of' national authorities. Especially figures about numbers of technical aids provided, numbers of disabled persons etc. are lacking. For successful research in this field such data are absolutely necessary.
4. In the literature only very little systematic objective evaluations of service delivery systems are reported. There are no common procedures for the evaluation of systems, which makes existing evaluations incomparable.
5. The terminology used III different countries is not consistent. For a process of convergence consistent terminology is an important condition.
6. Writing in English was a problem for many of the centres and organisations involved. Writing the description in the national language with a translation afterwards would probably have given better and more comparable results.
7. The comments of user/consumer organisations on the descriptions of the service delivery systems offered very relevant information and perspectives. There are important differences between theory and practice in many of the systems; according to the comments from user organisations it does not always work as it is described. It is regrettable that more time and resources were not budgeted for collecting such comments.
8. Mainly due to the strong time limitations the information included in the descriptions was only partly utilized in the analysis. For example, the differences between the five segments of technical aids selected were not studied enough. Also the identification of "good examples" in service delivery systems could be more exhaustive.
9. The methodology for cost-effectiveness analysis of service delivery systems is not well developed (the original idea to do a cost-effectiveness analysis at this level appeared to be impossible, due to lacking data and the absence of well-developed procedures).
10. Austria and Iceland were not included in the original plans for the study. This is regrettable; inclusion would have given a more complete overview.
11. The structure developed for describing the systems was essentially good, but since this was a first attempt to make a comprehensive description of the systems there probably is some

redundant and some missing information. More precise and focused instructions would have lead to more comparable and less voluminous descriptions.

12. In the study the six quality criteria were developed after the structure for the descriptions was finished. The result is that some information related to the criteria used in the analysis was not available in the descriptions.
13. Mainly due to the very high time pressure the criteria used in the analysis and the discussions were not optimally defined. Although they appeared to be useful tools for the purpose, it is felt that more precise definitions, especially for the criteria coordination and efficiency, could have contributed to even better results.
14. The service delivery processes were only described for five segments of technical aids. These five segments are not really representative for the total market of assistive technology. Especially prosthetics, continence aids and house adaptations should be considered in a further study.
15. In many cases it is difficult to get a clear understanding of the extent of user influence although direct questions were posed concerning this.

Improving Service Delivery Systems

One of the aims of the study was to generate proposals for improvements in service delivery in the European countries. This is a precarious aim. Each country has its own system, with its own history and social and cultural backgrounds, explaining why the system is as it is. Besides, each country has its own unique responsibility for service delivery. It is clearly outside the competence of the HEART consortium to prescribe how individual countries should organise their service delivery systems.

In the original plans for the study the idea was to develop one or more "optimal" models of service delivery systems, that could be implemented in the participating countries. This idea was left in a very early stage of the study. It was decided to follow a more qualitative approach. An attempt was made to develop common quality criteria for service delivery, that could be applied in all Countries. The approach was not to design an "optimal" system and present that as the ideal one to strive for, but to develop quality criteria that facilitate national and international discussion about the quality of service delivery. Together with these criteria good examples (benchmarks) of how they can be met were to be identified.

The result of this approach was presented in one of the previous chapters, "service delivery from a quality perspective". Many statements (44) about good service delivery were presented. It is not easy to conclude what a good service delivery system should look like from this list, but, as explained, that was not the intention. Of course the results from the "voting" procedure at the workshop could be used to prioritise these statements. This is, however, not very sensible; the validity of the voting is questionable and, more important, it would exclude many very relevant statements. It was therefore decided not to prioritise the statements about good service delivery, but to consider them all equally relevant indicators of good quality.

They offer a first operationalisation of the six quality criteria adopted in this study. It must be possible to develop a kind of checklist for the evaluation of service delivery systems and procedures on the basis of these statements. In the next chapter a recommendation with this content is formulated.

The results of the study presented in the preceding chapters and especially the proposals for (European) action generated during the workshop give clear clues for the continuation of the process started with this study. In general, the results are closely in line with the aims at the start of the study. Many proposals are concerned with further studies into different aspects of service delivery, which can be seen as an extension or continuation of the description of the service delivery systems in the first phase of this study. It is obvious that there is a great need for information about service delivery and related subjects, ranging from basic figures to examples of good practice. Another large group of proposals is concerned with international cooperation aiming at the exchange of knowledge and experience. Very closely related to these proposals are proposals about education and

continuous training. These proposals are very much in line with the qualitative approach followed in the second phase of the study.

The conclusion with respect to future policy is that the work started with this study should be continued along two main lines. The first line is that of collecting and spreading information about service delivery and related subjects on a national as well as an international basis. The second line is a continuous process of quality improvement through discussions about the quality of service delivery, through education, through the exchange of know ledge and experience, etc. This proposed approach can be characterised as bottom-up, gradual, based on consensus and respecting the individual countries. Having in mind the support and cooperation received during the execution of the study, this approach would appear to have a good chance of being successful.

Essential for success, however, is that there must be some kind of structure or network continuously pushing and stimulating these processes on a European level. Several of the proposals for future action are about such a structure or network. In the next chapter more specific recommendations are given.

RECOMMENDATIONS

In the previous chapters many recommendations were presented. Most of them were formulated during the international workshop, but there are also recommendations following from other parts of the work and experiences during the project.

When looking at the recommendations they can be divided into three major groups. Several recommendations are concerned with a follow-up of the work started with this study. A second group is concerned with the creation of international networks and the provision of information, including education. The third group are proposals for new studies in the field. In this chapter the recommendations following from the study are listed, using the division into the three groups mentioned.

In general, it is recommended to the Commission to continue to stimulate and support projects within the total range of assistive technology. Moreover, disability issues should be taken into account in all other programmes supported and implemented by the Commission. Actions are required to stimulate national and European awareness of service delivery systems, and to promote research programmes in this field.

Follow-up of HEART Line C

As mentioned in the section "Spin-off effects", it is strongly recommended to continue the work started with this study. More specifically the following recommendations are given.

1. It is recommended that the data obtained in the present study are used for more detailed analysis.
2. It is recommended to update the descriptions of the service delivery systems in early 1996.
3. In case an update of the descriptions will be made, it is recommended to: a) include Austria and Iceland as well, in order to have complete coverage of EU and EFTA Countries; b) try to make the descriptions shorter by focusing the instructions; c) focus the content of the descriptions more specifically on the quality criteria developed for the analysis; d) reconsider the choice of five segments of technical aids; e) reserve sufficient resources for translations, so that national contact centres can write the descriptions in their own language; f) explicitly include user comments and to budget resources and time for this purpose; g) more precisely define the quality criteria and clarify the overlap between them.
4. It is recommended to organise a similar workshop as in Belluno in the summer of 1996, with essentially the same participants and representatives of important national (information) centres in the field of service delivery. At least three subjects should be on the agenda of such a workshop: a) what was done with the recommendations from the present study; b) procedures and criteria for evaluating service delivery systems; c) further discussion on good examples and models for service delivery.

These activities could very well be combined in one follow-up projects[8].

[8] No initiative was ever made on this subject on the initiative of the European Commission, that exactly follow these recommendation. The recent AAATE / EASTIN workshop – held in Copenhagen on May 21-22, 2012 under the patronage of the Danish Presidency of the European Council – can be considered the first European follow-up meeting on the subject of the HEART LINE C study. However, several Studies have been carried out on specific topics, especially in the ICT domain.

Networking and information

1. There should be a European structure for coordination, dissemination of information and knowledge exchange with respect to European assistive technology and research and development, good practices in service delivery, technical aids, etc. This structure should stimulate networking and exchange of experience and ideas between relevant actors such as user groups, researchers, service providers, decision makers, etc. This can be done through seminars, workshops and networks aimed at the exchange of good practice. Resources are required for this. It is recommended that the European Commission encourages and supports these activities and initiate a study on the best kind of structure for this purpose.
2. It is recommended to make an inventory of existing centres of excellence (special resource centres) throughout Europe.
3. It is recommended to initiate the creation of an international network between the centres of excellence to stimulate international and regional cooperation and exchange.
4. There should be European action for networking information centres, technology transfer centres, market advisory centres in the field of assistive technology and developing common protocols of the information/technology transfer activities.
5. It is recommended to make an inventory of national (information) centres in the field of service delivery, that can serve as a network for continuous discussion.
6. The current HANDYNET[9] system should be made more available and accessible to the public. Other ways of information provision should also be explored and stimulated.
7. HANDYNET should be part of a wider strategy (or structure) for transferring information and knowledge. That strategy should include other channels, like awareness campaigns, other databases, seminars, etc. The Commission should take the responsibility to initiate such strategy.
8. a) It is recommended that the European Commission encourage and support actions to organise courses and training on an international level, without forgetting the national, cultural and regional influences. This gives opportunities to professionals to exchange on international level. b) Such courses should include the following topics: methodologies of assessment, new possibilities and technologies, management aspects within service delivery systems. C) Organisations of professionals, users, schools and urtiversities should be involved in setting minimum requirements for such courses.
9. Training in research methods should be included in basic education. There should be research opportunities on a clinical level.
10. There should be European action to develop and validate protocols for the steps in the service delivery.

Proposals for new studies

To further develop the field of service delivery a number of new studies are proposed. It is recommended to initiate studies in six fields.

User influence

1. There is a lack of systematic procedures for collecting user feedback all over Europe. Specific actions should be taken to develop methodologies for this. It is recommended to start European collaborative research projects for developing methodologies and procedures to be embedded in the SDSs for systematically collecting and processing user feedback, in particular individual user feedback. Such projects should include pilots and testbeds of good practice.

[9] See again the previous footnote on EASTIN as taking over the former “handynet vision”.

2. It is recommended that the Commission sets aside funds to carry out studies on user involvement with service delivery of technical aids. These studies should include actions to raise awareness of the issues involved with service delivery among user organisations and pilot projects where users and user organisations together with administration try innovative approaches to user involvement in service delivery.
3. A pilot project on European level is recommended to investigate suitable financial support to user organisations for increasing their influence in the service deli very system.

Terminology

4. It is recommended to plan a study aiming at making the terminology used in different countries more consistence, for example by developing an international glossary of relevant terms.

Evaluation of service delivery systems and the development of quality control procedures

5. It is recommended to plan a study aiming at the development of a common procedure for the evaluation of service delivery systems and processes, e.g. a kind of checklist, on the basis of the six quality criteria and statements developed in the present study.
6. Service delivery systems should develop systems or procedures for self-correcting quality control of the process and the outcome. Procedures should be developed for each phase of the process as well as for the process as a whole. Therefore it is recommended that the European Commission encourage and support Recommendations studies on the development of tools, procedures and expertise for self-regulating systems.
7. It is recommended to develop measuring tools (to be embedded in the accounting systems of service delivery systems) for taking into account not only what that system is doing, but also why (as a key to build a self-regulating system).
8. Bureaucratic rules and complicated financial rules and administrative barriers often extend the duration of the provision of technical aids and can even be a barrier. It is recommended that the Commission sets aside funds for studies of financial and administrative procedures. These studies should include pilot projects.

Development of cost-effectiveness analyses

9. It is recommended to stimulate studies aimed at the development of the methodology for cost-effectiveness analysis of service delivery systems.

Access to services for users in other than their home countries

10. We have not studied the possibilities for users to get access to service delivery systems in other than their own countries (e.g.: maintenance and repair of technical aids). To improve possibilities to move to other countries is a question of accessibility. Movement across the borders is one of the fundamental points in the Treaty of the EU. It is recommended to plan a study to describe the current regulations in regard to assistive technology for community and non-community citizens in the countries under study. If there are different types of residence permits (e.g. student, employee, spouse, dependent, refugee), regulations for each of the categories should be specified.

Service, maintenance and repair

11. Maintenance and repair is a common challenge. More study is needed to find good solutions (e.g. as an aspect of testing).

Proposals concerning the implementation of these statements and recommendations can be found in HEART report C.6.1, "Recommendations for Making Improvements In Service Delivery of Assistive Technology"

Appendix

Participants in the study

Line C participant

Luc de Witte, IRV

He was the coordinator of the study. Has a medical degree. Works as senior researcher at IRV and at Maastricht University. Is involved in a broad spectrum of projects in the field of rehabilitation and handicap.

Liesbeth Pyfers, IRV

Has a degree in cognitive psychology with a specialization in communication and communication disorders. Has been involved for 20 years in fundamental and applied research in the areas of sign language and communication with the deaf, and the communication problems of adults with aphasia.

Harry Knops, IRV

Is a occupational therapist. Manager of projects concerned with information provision within IRV.

Petra Roben, IRV

Has a degree in movement sciences. Works for several international projects concerned with the assistive technology market.

Ingela Johnson, SIVA

Has a diploma in occupational therapy (1977), Gothenburg, Sweden. Since 1981 working at SIV A as a technical aids adviser and research assistant.

Renzo Andrich, SIVA

Has a degree in electrical engineering (1978). Since 1981 responsible of SIVA (technical aids research & information service) at the Don Gnocchi Foundation. Main role within SIVA: overall coordination, information system development, educational programmes, research projects.

Angelo Paganin, SIVA

Has a degree in foreign languages. Project director at Centro Studi Prisma, Beliuno,italy which promotes independent living and the social integration of disabled people.

Marti Parker, HI

Has degrees in sociology and physical therapy. When not working at the Swedish Handicap Institute, she is employed at the Department of Social Medicine at the University of Uppsala. She does research on the physical function of elderly people and their use of assistive technology.

Susann Forsberg, HI

Has a degree in social sciences. She is the head of the Department of Research and Development at the Swedish Handicap Institute.

National contact centres

Belgium

VLICHT (Mr Tom Vanleeuwe)

Denmark

Danish Centre for Technical Aids for Rehabilitation and Education (Ms Maria Holm)

Finland

National Research and Development, Centre for Welfare and Health (Mr Erkki Kemppainen)

France

Centre de Readaptation Professionelle et Fonctionelle de Nanteau-sur-Lunain (Jaques Alastuey)

Germany

Forschungsinstitut Technologie Behindertenhilfe (FBT), Evangelischen Stiftung Volmarstein (Christian Bühler)

Greece

Institute of Computer Science, Foundation of Research and Technology Hellas (FORTH) (Maria Papadopoulou)

Ireland

National Rehabilitation Board (Sean Kenny)

Italy

Servizio Informazione e Valutazione Ausili (SIVA) Fondazione Pro Juventute (Ingela Johnson)

Luxembourg

ADAPTH (Jean-Philippe Schmit)

The Netherlands

IRV (Theo Bougie)

Norway

Sintef Rehab (Grete Hjermstad)

Portugal

Instituto Superior Tecnico (IST) – CAPS (Luis Azevedo)

Spain

Centro Estatal de Autonomia Personal y Ayudas Technicas INSERSO (Manuel Lobato)

Sweden

The Swedish Handicap Institute (Handikappinstitutet) (Susann Forsberg)

Switzerland

Fondation Suisse pour les Theletheses (FST) (Jean-Claude Gabus)

United Kingdom

Royal National Institute for the Blind (Jane Peters)

HEART Consumer Board

Belgium	*Eurolink Age (Ms Christine Marking)*
Denmark	*National Society of Blind Persons (Mr Paul Lüneborg)*
Denmark	*The Danish Deaf Association (Me Knud Sondergaard)*
Finland	*The National Council on Disability (Mr Kalle Könkkoölä)*
France	*International League of Societies for Persons with Mental Handicap (Mr Alain Parvillers)*

Other workshop participants

EU	*Commission of the European Communities (Mr Egidio Ballabio)*
Belgium	*Vlaams fonds voor sociale integratie van personen met een handicap (Mr Rene Luyckx)*
Canada	*Findlay-Nathan Association / Hugh MacMillan Rehab Centre (Ms Betty-Jean Findlay)*
Denmark	*Ministry of Social Affairs (Ms Elvan Birgit)*
Denmark	*Danish Centre Technical Aids for Rehabilitation and Education (Ms Elisabeth Kampmann Hansen)*
Finland	*Ministry of Social Affairs and Health (Ms Heidi Paatero)*
France	*EGERIS (Ms Michele Conte)*
Germany	*Krankenkasse (Mr Peter Lückoff)*
Ireland	*E.H.B (Ms Teresa Downes)*
Italy	*National Multiple Sclerosis Society (AISM) (Ms Rita Bencivenga)*
Netherlands	*Dutch Council of the Disabled (Ms Suze Rietdijk)*
Norway	*The Norwegian Federation of Organisations of Disabled people (Mr Liv Arum)*
Portugal	*Secretariado Nacional de Reabilitação (Mr José Silva Graça)*
Slovenia	*University Rehabilitation Institute Ljubljana (Mr Crt Marincek)*
Spain	*CEAPAT (Ms Cristina Rodriguez Porrero)*

Sweden	*Hjälpmedelscentrum (Ms Jorunn Antonsen)*
Sweden	*Department of Social Pharmacy, Uppsala University (Mr Håkan Brodin)*
Sweden	*The Swedish Handicap Institute (Mr Gunnar Fagerberg, Mr Tomas Lagerwall, Ms Theresa Skehan)*
Switzerland	*OFAS (Federal Social Insurance Office) (Mr Heinz Borner)*
UK	*RNIB (Mr Steven Cooper)*
UK	*Department of Health (Ms Sheelagh Richards)*