The Norwegian Medical and Health Sciences Gateway

Norway has 4.5 million inhabitants. There are four universities, and all of them teach medicine. The total student capacity within medicine is about 550 students per year. At two of them, you may also study dentistry. Moreover, there are about 20 colleges, which offer studies in health sciences and social work. There are 55 hospitals. Most of these institutions have a medical library.

The Norwegian Medical and Health Sciences Gateway is a national project, which has been developed during the last two to three years. Librarians from university and college libraries in Norway collaborate in this venture. The aim is to organise high quality Internet resources; this comprises other gateways, databases, educational material as well as subscription-based resources. Primary source documents are included, although journals, journal articles or books usually should be catalogued in the ordinary online library catalogue.

The audience is students and staff at the Norwegian universities, colleges, research institutions and hospitals. However, library staff will be an essential user group, not only in the beginning. The Gateway focuses on Norwegian web sites. Of course, we register high-quality links in other Scandinavian languages, and important international resources as well.

The Medical and Health Sciences Gateway is actually a part of a general gateway: The "BIBSYS Subject Based Gateway", which aims to construct a comprehensive gateway covering all subject areas, taught at universities and academic colleges in Norway. The BIBSYS Subject Based Gateway is freely accessible on the Internet, and has been launched in April this year. The medical part of the Gateway is one of the best-developed parts. Already last autumn, several medical libraries linked to the BIBSYS Subject Based Gateway from their library web sites.

The URL of the Gateway is http://emneportal.bibsys.no/

Figure 1. Home page of the BIBSYS Subject Based Gateway, http://emneportal.bibsys.no

The home page (Figure 1) gives you an overview over the five main sections: General resources, Humanities, Social Sciences, Sciences & Technology and Medicine. You may select one of these sections or one of the topics within (f.e. Pharmacology). Special care has been taken to give as simple and easy to follow a layout as possible, with a short way to the original information. Therefore, there is no welcome page to pass, before you retrieve the essential information.

The next page (Figure 2) shows the selected subject within the hierarchy. The symbols used, (folder, file) should be familiar from other software. You may select one of the subcategories and a list of resources within this category will be displayed. The results are arranged in a short list on the left and a description of the same resources on the right handside. One click on the title connects you to the original resource.

Data on each item: You find a brief description in Norwegian, authors, key words, the country this resource refers to, type of resource, and classification numbers. We register the data in a simplified version of Dublin Core. For the resources within the medical section, we also add an English description, and NLM classification. As far as possible, we incorporate MeSH-words in the English text, or as keywords. In this way, we obtain a slight standardisation in vocabulary, which in turn will allow more concise searching. In medicine, foreign students and staff are quite common, and we do not want to exclude them from using the Gateway.
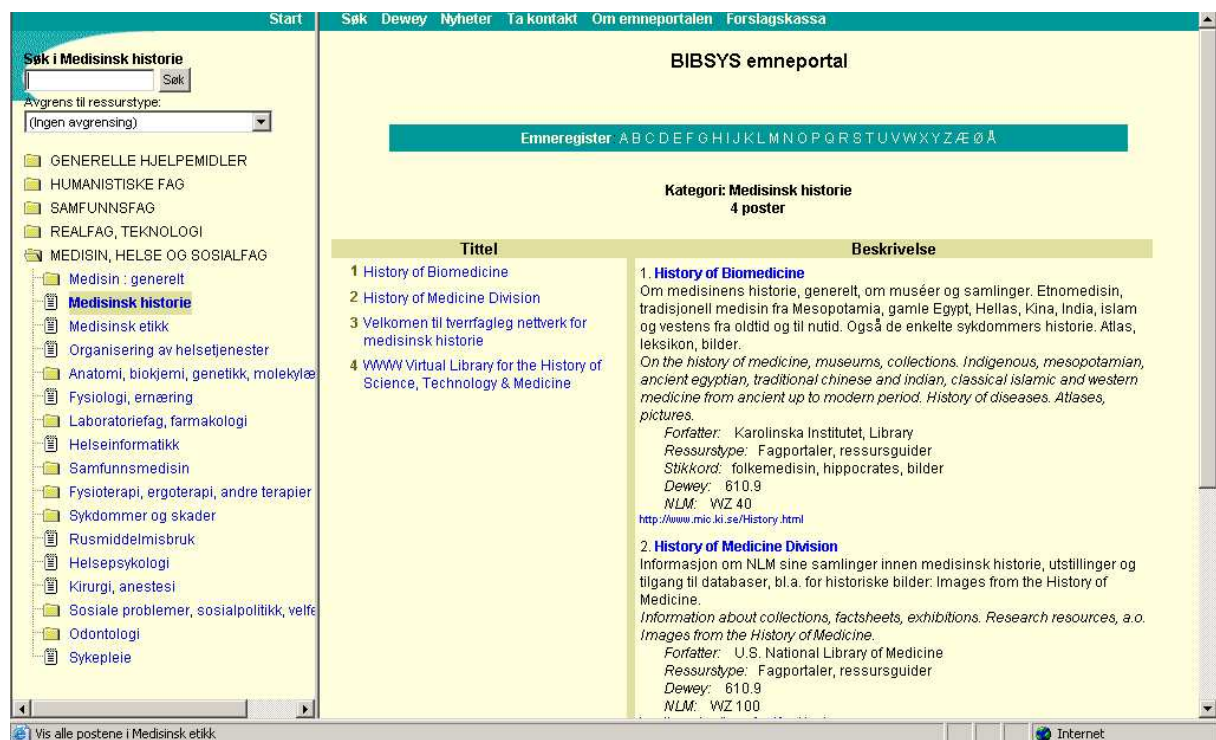
Figure 2: Selected subject from the hierarchy with list of registered web sites

Search-function: At all levels, there is a search field to search within a given part of the Gateway. From the home page, you search within the whole Gateway. This is of course an advantage of a general gateway, above one specialised on a single subject. Other sections as well may comprise interesting information for physicians; you may find useful resources also in the Science section, or in the Social Science section.

An advanced search feature is accessible from the upper menu. There, you may search in particular fields, combine search terms, or limit by type of resource, country or date.
On the upper menu line, you get access to other functions like search on Dewey number, news, information about the Gateway, the proposal form, and the possibility for feedback.

MEDISIN, HELSE OG SOSIALFAG	61* OR 572.8* OR 361* OR 362* OR 174.2*
Medisin : generelt	610* NOT (610.6* OR 610.7* OR 610.285* OR 610.019* OR 610.9*)
Fagportaler	610* NOT (610.6* OR 610.7* OR 610.9* OR 610.285* OR 610.019*) NOT T=A* AND T=BA
Bibliografiske databaser	610* NOT (610.6* OR 610.7* OR 610.9* OR 610.285* OR 610.019*) NOT T=A* AND T=BB
Ordbøker, oppslagsverk	610* NOT (610.6* OR 610.7* OR 610.9* OR 610.285* OR 610.019*) NOT T=A* AND T=BC
Utdanning, forskning	610* NOT 610.73* AND (T=AB OR T=AC)
Organisasjoner, foreninger	610* NOT 610.73* AND T=A* NOT (T=AB OR T=AC)
Medisinsk historie	610.9*
Medisinsk etikk	174.2*
Organisering av helsetjenester	362.1* OR 362.2* NOT (362.25* OR 362.26* OR 362.27* OR 362.28* OR 362.29*)
Anatomi, biokjemi, genetikk, molekylærbiologi	611* OR 612.015* OR 572.8*
Anatomi : generelt	611* NOT 611.018*
Cellebiologi, histologi	611.018*
Medisinsk biokjemi	612.015*
Genetikk	572.8*
Fysiologi, ernæring	612* OR 613.2* NOT 612.015*
Laboratoriefag, farmakologi	615* OR 616.01* OR 616.96* OR 616.079* OR 616.0756* OR 616.0757* NOT 615.8*
Klinisk kjemi	616.0756*
Farmakologi, farmasi	615.1* OR 615.5* OR 615.321
Toksikologi	615.9*
Mikrobiologi	616.01*
Parasittologi	616.96*
Immunologi	616.079*
Radiologi, bildediagnostikk	616.0757*
Helseinformatikk	610.285*
Samfunnsmedisin	613* OR 614*
Samfunnsmedisin : generelt	613 OR 614
Helsestatistikk	613* NOT (613.2* OR 613.8*) AND T=BD
Epidemiologi	614.4*
Arbeids- og miljømedisin	616.98* OR 363.1*

Figure 3: Part of the hierarchy within medicine.

Classification: The Gateway is based on Dewey decimal classification. Many Norwegian libraries use Dewey, but also other systems, official and local classification schemes are used. It was essential to have one common system for the whole Gateway. However, within medicine, the large libraries in Norway are more familiar with NLM classification. After a period of discussions, we decided to accept Dewey and make the best out of it. The hierarchy (Figure 3) is not developed strictly according to the Dewey categories. Many users prefer browsing, and our concern was therefore to construct an easily understandable and logical hierarchy, where browsing may be the major entrance to the Gateway information. One single Dewey number may appear in different topics in the hierarchy. On the other hand, several Dewey classification numbers could classify a single web site, and in this way, one web site could appear in different topics. The Dewey subject index offers a third way to enter the Gateway.

Bakground: Many libraries developed their own gateways to Internet, and offered their users a selection of high quality links from their web sites. The idea was to develop such a service on a national basis instead of the librarians using much effort and time in maintaining local web sites. An initial committee made the essential decisions about type of database and which classification schemes to use, they arranged the initial hierarchy and decided on which information was necessary to register, as well as deciding to use a simplified version of Dublin Core in the registration schemes.

Organisation: Librarians at the various libraries participate in the different editorial boards. They take part in the registration process, cataloguing and describing the selected resources. About 25 subject editorial boards covering the different subjects do the essential part of the work. The medical and health sciences editorial board is composed of seven librarians from

seven different locations. In the first stage last year, the main purpose was to select resources to register into the Gateway. There is a separate part of the database for proposed web sites. Everyone may suggest resources, and give a simple description in the proposal form. Although colleagues and members of faculty were invited to suggest new links, the members of the editorial board have done the significant part. Each subject editorial board is responsible for critical assessment and registration of the proposed web sites to the Gateway. Another concern is to improve the initial hierarchy. As we register more links into the Gateway, we may divide into subcategories where necessary, move parts of a topic to another one, and fill gaps we did not realise in the beginning.

In our editorial board, we collaborate by e-mail, phone and meetings in between. In organising our work in such a way, we can make the most of electronic communication, as well as learning from each other. Once a week I disperse the proposals that have arrived, in this way the work is shared equally. In my opinion, our physical meetings contributed to a quite good cooperation and responsibility for that work, and enhanced the progress of developing the medical section of the BIBSYS Subject Based Gateway. It is not easy to make room for a new project in an already busy working day. We had, of course, our periods with doubts, but mainly at least a few of us were enthusiastic about the project and had time enough to push it further along. We are satisfied with our effort, and by the 1. August 2002 we have registered totally 316 resources. All subcategories contain at least one link. The medical section may increase to about 600 to 800 resources. The limit for the BIBSYS Subject Based Gateway, as a whole, is about 10 000 high-quality web sites.

Technical support: BIBSYS is a shared library system for all Norwegian university libraries, the National Library and a number of college libraries, research libraries and hospital libraries. The BIBSYS system contains all the functions a modern library needs for internal purposes as well as for giving service to its researchers and students: online catalogue, several article databases (a.o. Medline), and electronic journals. BIBSYS maintains the technical part of the BIBSYS Subject Based Gateway.

There is a **main editorial board** composed of four people, which has the overall responsibility. They are the link between the BIBSYS technical support and the subject editorial boards. They concentrate on developing necessary functions and further functional improvement, as easier registration forms and layout. New tasks are organising the maintainance of the Gateway.

Further challenges: We aim to make the Gateway part of the teaching aids that the libraries make available to the user communities. After such short time, half a year after official launching, the usefulness of the Medical Gateway is not possible to access. In some ways, we still are in a stage of development, and the challenge is to get every librarian to be aware of the exixtence and usefulness of the Gateway. This is an essential condition for the introduction of it to students and staff at our institutions.
A better local adaptation of the Gateway is perhaps important. The local icon in the upper right is a new feature, and results in that both library staff and users regard the Gateway as a local product. Most links from library websites have now been registered in the Gateway, and libraries may replace the link collections on their web sites with links to the BIBSYS Subject Based Gateway. It is possible to link to sections or topics, or predefined searches, medical dictionaries for example.
In cooperating with the new Scandinavian patient information gateway (which is also cross-linked to BIBSYS) the Gateway may even be of value to new groups of users.

We do not know to what extent people will select the BIBSYS Subject Based Gateway above other gateways or search tools like Google. However, in the beginning, at least librarians will profit from this venture. It is one place to go for easy retrieval of good and updated information. For a single library, it means also saved time on maintaining their link collections. I am optimistic and think that the BIBSYS Subject Based Gateway will survive for a long time, and if not the whole Gateway, at least the medical section. Some time in the future we even may integrate with other gateways as well.

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