

A web portal for therapeutic drug monitoring

Until recently, no nationwide overview of the clinical pharmacological analyses (i.e. therapeutic drug monitoring and testing for drugs-of-abuse) that are undertaken in Norwegian laboratories has been available. «Farmakologiportalen» («The Pharmacology Portal») is now being launched, and this is the professional community's own overview of such analyses.

In 2012–2013, Norwegian clinical pharmacologists undertook a nationwide mapping of available clinical pharmacological analyses. This mapping included private as well as public laboratories, and all analyses of exogenous substances (mainly therapeutic and illicit drugs) in all types of biological matrices (serum, whole-blood, urine, hair, saliva etc.) were registered (1, 2). Such overviews can be useful tools for the laboratories as well as the requisitioners, but unfortunately they rapidly become outdated.

More than 50 laboratories in Norway provide clinical pharmacological analyses. In many of these, the repertoires change rapidly as new drugs (therapeutic drugs and drugs-of-abuse) are used. To maintain an overview of this ever-changing situation, a web-based platform for collaboration is required. In March 2015, the Norwegian Association of Clinical Pharmacology will therefore launch the «Farmakologiportalen» («The Pharmacology Portal») (3). Here, a shared and updated overview of pharmacological analyses undertaken by Norwegian laboratories can be found, providing both a search engine and a listed display of substances, laboratories and relevant information material. At any time, one can find out which analyses are offered where.

Funding and ownership

The idea behind Farmakologiportalen derived from «Genetikkportalen» («The Genetics Portal»), a Norwegian portal for

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medical genetic analyses (4). Like the latter, the technical development of Farmakologiportalen has been funded by the Norwegian Medical Association's Fund for Quality Improvement and Patient Safety.

The Norwegian Association of Clinical Pharmacology is the responsible owner of Farmakologiportalen, and covers the operational costs. An editorial board, consisting

of consultants from all of the eight clinical pharmacological laboratories in Norway, is responsible for the database structure and the content of the portal, while each individual laboratory is responsible for updating its own analysis repertoire.

Content

Farmakologiportalen already contains a searchable overview of the pharmacological analyses that are available in Norway. For example, if someone is in need of a laboratory that undertakes analyses of amiodarone (Cordarone) or flecainide (Tambocor) in serum, entering the generic name or trade name of the drug in the search field will reveal that such analyses are performed in Tromsø and Trondheim respectively. A search for laboratories that analyse novel psychoactive substances, such as methylbenzodioxylbutanamine (MBDB) and methylenedioxypyrovalerone (MDPV), will show that these analyses are provided by Oslo University Hospital and the Norwegian Institute of Public Health respectively.

By clicking on an analysis, one may also retrieve laboratory-specific details. For example, one may learn what method is used in Bergen for analysis of pregabalin in urine and the sample volume required for this analysis. It is also possible to click on a relevant laboratory to see its entire analysis repertoire.

The future

The Norwegian clinical pharmacological community is characterised by a spirit of cooperation, and Farmakologiportalen will help drive this cooperation forward. The Norwegian Association of Clinical Pharmacology is hoping to reach a consensus on shared, national reference values for therapeutic drug monitoring and to present these in the portal, with mutually agreed explanatory texts for each substance. This will permit the portal to be used as a national reference manual for information on how tests are to be taken (test tubes, times etc.) and how test results are to be interpreted. Such a functionality will most likely be able to replace – partially or fully – the individual reference manuals in use by many laboratories.

We would also like to see Farmakologiportalen linked to the Norwegian national coding framework for laboratory analyses and investigations (5). This will ensure that all laboratories use correct and consistent



Farmakologiportalen. Illustration: Kantega

designations for clinical pharmacological analyses as they are added, and that analysis codes are allocated without creating duplicates or erroneous synonyms.

We also hope that the Farmakologiportalen can become an arena for the professional community, with an integrated link to the national, monthly web-based internal training courses provided by the Norwegian Association for Clinical Pharmacology, as well as a place where relevant academic material can be shared, both internally among the laboratories and externally with other interested parties. Farmakologiportalen has the potential to become a valuable resource for clinical pharmacology in Norway. Who knows – perhaps it can be expanded to encompass our neighbouring countries? Pharmacology knows no boundaries!

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