

## How to Find PubMed Specific Quotes for Family Medicine and Primary Health Care

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### Abstract

With 27 million citations and more than 26,000 descriptors, PubMed published by the National Library of Medicine (NLM) is not always easy to consult for Family Medicine and Primary Health Care which are not easy to identify in the MeSH database. We first propose to split these two concepts, to identify in the Medical Subject heading (MeSH) thesaurus the entries that correspond to them and to use the MyNCBI service, made available by the NLM, to prepare two tailored document filters.

### Résumé

Avec 27 millions de citations et plus de 26.000 descripteurs, PubMed édité par la National Library of Medicine (NLM) ne se laisse pas toujours aisément consulter. La médecine de famille (MF) et les Soins de Santé Primaires (SSP) n'y sont pas aisés à cerner. Nous proposons d'abord de scinder ces deux concepts, d'identifier dans le thésaurus Medical Subject heading (MeSH) les entrées qui leur correspondent et d'utiliser le service MyNCBI, mis à disposition par la NLM pour préparer deux filtres documentaires sur mesure.

Key words: family medicine; primary health care; bibliography; PubMed; LiSSa

### An online interface dedicated to family medicine and primary care

There are many filters applicable to PubMed for general practice/family medicine (GP/FM) and primary health care (PHC) but they do not seem to distinguish between the two concepts<sup>1, 2, 3</sup>. The origin and representation of 187 contextual concepts of family medicine were the subject of a detailed study described elsewhere<sup>4, 5</sup>. Each item is available online at [www.hetop.eu/Q](http://www.hetop.eu/Q), where they are defined in detail, and allows an automatic query of the PubMed bibliographic database. The search strategy generated on PubMed uses the MeSH described in the Tableau 1, as well as the MeSH "Entry Term" for each concept<sup>6</sup>. This strategy provides extensive results that can be reused to refine research on other concepts of the HeTOP/Q base. They will also serve as additional specific filters.

The Family Physician and Primary Care concepts form two of these 187 concepts and have also an online description (see Tableau 2) on [www.hetop.eu/Q](http://www.hetop.eu/Q) as well as automated access to PubMed. PubMed is a complex documentary system marked by its historicity and in which the GP/FM and PHC descriptors were built in a disordered way. The two sets of MeSH representative of the two concepts, studied in detail with their dates of apparition, are listed in Tableau 1.

From this distribution, two separate search strategies are prepared, using respectively a set of 7 and 8 descriptors. The reader will learn here how to use these descriptors as a filter for future research that focuses either on General Practice/Family Medicine (GP/FM) or Primary Health Care (PHC).

**Tableau 1 MeSH chosen to represent Primary Care and Family Physician respectively and years of introduction into the MeSH Thesaurus<sup>5</sup>**

Types	MeSH	Year Introduced:
Primary Health care (PHC) related MeSH	"Community Health Centers"[MeSH:NoExp]	1979
	"Community Health Services" [MeSH:NoExp]	1967
	"Community Mental Health Centers"[MeSH:NoExp]	1979
	"Community Mental Health Services"[MeSH]	1967
	"Home Care Agencies"[MeSH]	1995
	"Home Care Services" [MeSH:NoExp]	1967
	"Primary Health care" [MeSH:NoExp]	1974
	"Rural Health Services" [MeSH:NoExp]	1996
General Practice : Family Medicine (GP/FM) related MeSH	"Physician, Family" [MeSH]	1974
	"Community medicine" [MeSH]	1977
	"Family Practice" [MeSH]	1978-2010
	"Gatekeeping" [MeSH]	2000
	"General practice" [MeSH]	2011
	"General practitioner" [MeSH]	2011
	"Physician, Primary care [MeSH]	2011

**How does the bibliographic search on [www.hetop.eu/Q](http://www.hetop.eu/Q)**

In the online edition of the 187 contextual concepts of family medicine and primary care on [www.hetop.eu/Q](http://www.hetop.eu/Q), these two systems are described respectively under the codes QS1 *Primary Care* and QS41 *Family Physician*. These two codes have each a freely accessible immutable Internet address called URI (Uniform Resource Identifier)<sup>7</sup>.

**Tableau 2 URI for two concepts. To change the language just change the acronym: la = en. Are available = fr = nl, = es, = pt, = ua, = ko, = ka, = vi, = tr**

QS1 Primary Care <a href="http://www.hetop.eu/hetop/Q?la=en&amp;rr=CGP_QC_QS1">http://www.hetop.eu/hetop/Q?la=en&amp;rr=CGP_QC_QS1</a>
QS41 Family Physician <a href="http://www.hetop.eu/hetop/Q?la=en&amp;rr=CGP_QC_QS41">http://www.hetop.eu/hetop/Q?la=en&amp;rr=CGP_QC_QS41</a>

Each concept gives access to a card containing its position in the hierarchy, a description, relations with other terminologies and to an automated consultation of bibliographic bases LISSa (French) and PubMed. An automatic equation is generated for each code (see Tableau 3 and Tableau 4) and the result displayed in the PubMed interface (Figure 1)

**Tableau 3 PubMed's HeTOP search strategy from Q-Code QS1 Primary Health Care (147,732 citations as of 25/03/2018)**

```
((("urban setting"[TW] OR "services, mental health community"[TW] OR "centers, rural health"[TW] OR "centers, satellite"[TW] OR "services, community mental health"[TW] OR "health care, community"[TW] OR "rural health centers"[TW] OR "care, home"[TW] OR "care, primary health"[TW] OR "service, home care"[TW] OR "health service, rural"[TW] OR "primary health care"[TW] OR "health centers, neighborhood"[TW] OR "community health center"[TW] OR "mental health services, community"[TW] OR "care services, home"[TW] OR "health care, primary"[TW] OR "community healthcare"[TW] OR "services, home care"[TW] OR "satellite centers"[TW] OR "home health care agencies"[TW] OR "center, satellite"[TW] OR "health center, neighborhood"[TW] OR "health centers, rural"[TW] OR "primary care setting"[TW] OR "healthcares, community"[TW] OR "centers, community health"[TW] OR "health center, community"[TW] OR "agencies, home health"[TW] OR "satellite center"[TW] OR "health services, community mental"[TW] OR "health service, community"[TW] OR "home health agencies"[TW] OR "neighborhood health centers"[TW] OR "agencies, home care"[TW] OR "service, community health"[TW] OR "center, neighborhood health"[TW] OR "home care agency"[TW] OR "community healthcares"[TW] OR "health services, community"[TW] OR "services, rural health"[TW] OR "care, primary"[TW] OR "domiciliary care"[TW] OR "home health agency"[TW] OR "primary healthcare"[TW] OR "health services, rural"[TW] OR "neighborhood health center"[TW] OR "agency, home health"[TW] OR "cmhc"[TW] OR "healthcare, community"[TW] OR "care, domiciliary"[TW] OR "care, community health"[TW] OR "home care service"[TW] OR "center, community health"[TW] OR "community health service"[TW] OR "health centers, community"[TW] OR "health center, rural"[TW] OR "assertive community treatment"[TW] OR "care agency, home"[TW] OR "rural setting"[TW] OR "agency, home care"[TW] OR "centers, neighborhood health"[TW] OR "rural health service"[TW] OR "care agencies, home"[TW] OR "service, rural health"[TW] OR "community treatment, assertive"[TW] OR "center, rural health"[TW] OR "healthcare, primary"[TW] OR "services, community health"[TW] OR "treatment, assertive community"[TW] OR "primary care"[TW]))))
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**Tableau 4 HeTOP search strategy on PubMed from Q-Code QS41 Family Physician (141,719 citations as of 25/03/2018)**

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((("physicians, primary care"[MH] OR ("physicians, primary care"[TW] OR "primary care physicians"[TW] OR "primary care physician"[TW] OR "physician, primary care"[TW])) OR ("gatekeeping"[MH] OR "gatekeeping"[TW])) OR ("community medicine"[MH] OR ("community medicine"[TW] OR "medicine, community"[TW])) OR ("general practitioners"[MH] OR ("general practitioners"[TW] OR "physicians, general practice"[TW] OR "general practice physician"[TW] OR "general practitioner"[TW] OR "practice physicians, general"[TW] OR "practitioners, general"[TW] OR "general practice physicians"[TW] OR "practitioner, general"[TW] OR "physician, general practice"[TW])) OR ("general practice"[MH] OR ("general practice"[TW] OR "practice, general"[TW])) OR ("family practice"[MH] OR ("family practice"[TW] OR "practice, family"[TW] OR "family practices"[TW] OR "general practices"[TW] OR "practices, general"[TW] OR "practices, family"[TW])) OR ("physicians, family"[MH] OR ("physicians, family"[TW] OR "family physicians"[TW] OR "physician, family"[TW] OR "family physician"[TW])) OR ("family doctor"[TW])) OR "physicians, primary care" OR "gatekeeping" OR "community medicine" OR "general practitioners" OR "general practice" OR "family practice" OR "physicians, family" OR "family doctor"
```

MyNCBI is a facility made available to each PubMed user by the National Library of Medicine (NLM)<sup>8</sup>. By introducing the search strategies proposed in the filter of MyNCBI we obtain two specific filters, PHC and GP/FM, which can be applied to all searches performed on the PubMed interface.

**Example of a bibliographic search strategy on [www.hetop.eu/Q](http://www.hetop.eu/Q)**

An example of use in a preparatory bibliography for an end-of-study work on homelessness using the HeTOP system is shown here<sup>9</sup>. The search strategy automatically generated by the HeTOP engine on PubMed is shown in Tableau 5. As of 25/03/2018 this strategy brings back 11,492 quotes.

**Tableau 5 HeTOP search strategy on PubMed from Q-Code QC33 homeless**

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((("street people"[TW] OR "street child"[TW] OR "child, street"[TW] OR "youths, homeless"[TW] OR "person, homeless"[TW] OR "people, street"[TW] OR "children, street"[TW] OR "homeless child"[TW] OR "street youth"[TW] OR "youths, street"[TW] OR "youth, homeless"[TW] OR "homeless children"[TW] OR "children, homeless"[TW] OR "youth, street"[TW] OR "runaways"[TW] OR "homeless youths"[TW] OR "child, homeless"[TW] OR "runaway"[TW] OR "persons, homeless"[TW] OR "street children"[TW] OR "homeless"[TW] OR "homeless person"[TW]))))
```

By crossing the result of *QC33 homeless* (Table 5) with the AND connector to the search strategy resulting from the concept *QS1 Primary care* reproduced in Tableau 3, the choice is reduced to 1482 quotes as shown in Figure 1 under *8 full PHC*. By crossing with the research strategy results of *QS41 Family Physician*, reproduced in Tableau 4, the choice is reduced to 284 references as shown on the screenshot under *7 full GM/FM* (Figure 1).

**Figure 1 PubMed interface obtained for QS33 Homeless on HeTOP. We see the beginning of the automatic search strategy. On the right, in the specific field of MyNCBI (personal to each user) the last two entries *8 full PHC* and *7 full GP/FM* gives the number of quotations obtained by applying these filters**



These 284 references therefore offer a "family doctor" view of the phenomenon studied, here the Homeless. By activating the PubMed "review" and / or "open access" filters, the choice of references is further reduced.

Research from HeTOP also can continue on the French-language bibliographic database LiSSa, which indexes more than one million articles in French<sup>10</sup>.

A fairly new way of querying the PubMed and LiSSa databases has been described. It should be noted that the usual introduction of "Homeless Persons" [Mesh] in PubMed gives 7,729 citations including 196 by activating the QS41 Family Medicine filter. This means that our approach recovers about 30% more quotes. The technique applied on HeTOP makes it possible to increase the number of quotations and to increase the difference of use of the concept according to the angles PHC or GP/FM. It also allows the user to become familiar with the Mesh and its mysteries. This technique has not yet been the subject of a validation study but is already being used successfully by many students.

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<sup>1</sup> Brown, Lynsey et al. (2014). "Facilitating access to evidence: Primary Health Care Search Filter." In: Health information and libraries journal 31.4, pp. 293–302. DOI: 10.1111/hir.12087

<sup>2</sup> Gill, P. J. et al. (2014). "Development of a search filter for identifying studies completed in primary care". In: Fam Pract 31.6, pp. 739–45. ISSN: 0263-2136. DOI: 10.1093/fampra/cmu066.

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<sup>5</sup> Jamoulle, M. (2017). Towards a system of concepts for Family Medicine . Multilingual indexing in General Practice / Family Medicine in the era of Semantic Web. Doctoral thesis. University of Liege, Belgium. Retrieved from <http://hdl.handle.net/2268/216132>

<sup>6</sup> Grosjean, Julien et al. (2012). "Teaching medicine with a terminology/ontology portal." eng. In: Studies in health technology and informatics 180, pp. 949– 53. URL: <http://europepmc.org/abstract/MED/22874333>.

<sup>7</sup> Uniform Resource Identifier : [https://fr.wikipedia.org/wiki/Uniform\\_Resource\\_Identifier](https://fr.wikipedia.org/wiki/Uniform_Resource_Identifier)

<sup>8</sup> NCBI Bookshelf, Using preference My NCBI help; <https://www.ncbi.nlm.nih.gov/books/NBK53593/>

<sup>9</sup> Zayane A Travail de Fin d'étude. Faculté de Médecine. Université de Bruxelles (2018 (sous presse)

<sup>10</sup> N Griffon et al. « LiSSa, Littérature Scientifique en Santé : une base de données bibliographique en français ». In : *Pratique Neurologique-FMC* 8.4 (2017), p. 240–247.