

Supplementary material 1. Detailed description of the search and selection process

Choice of databases

We searched for journals which include 'personalized' or 'personalised' in their title or description in National Library of Medicine Catalog as well as Google.

- NLM Catalog search (18.03.2014) with the terms "personalized medicine journal" and "personalised medicine journal"
- Google search (18.03.2014) with the term "journal personalized medicine"

We identified 9 scientific journals with these terms in their name or description. By checking the journal web sites and, when necessary, databases, we listed where each journal is indexed. We identified that among the database combinations, PubMed and EMBASE together would give the maximum number of journals covered for the search (8), and therefore decided to choose them. The journals included in either of those databases are:

- Current Pharmacogenomics and Personalized Medicine (Bentham Science, Dubai)
- EPMA Journal (BioMed Central)
- Journal of Personalized Medicine (MDPI, Basel)
- Journal of Translational Medicine (BioMed Central)
- Personalized Medicine (Future Medicine, London)
- Personalized Medicine Universe (Elsevier)
- Pharmacogenomics and Personalized Medicine (Dove Press, New Zealand)
- Mount Sinai Journal of Medicine: A Journal of Translational and Personalized Medicine (Wiley)

Only one journal, International Journal of Functional Informatics and Personalised Medicine (InderScience, UK) is indexed in neither PubMed, nor EMBASE.

Identification

PubMed was searched on 1 April 2014 via PubMed.gov and EMBASE on 14 April 2014 via OVID. The following search string was used in both:

"personalized health care" OR "personalized healthcare" OR "personalized medicine" OR "P4 medicine" OR "precision medicine" OR "stratified medicine" OR "systems biomedicine" OR "systems medicine" OR "individualized medicine" OR "personalised health care" OR "personalised healthcare" OR "personalised medicine" OR "individualised medicine"

In both databases the title or abstract was searched, limited to English articles, without time limits.

The search at PubMed gave 4.317 records and EMBASE 6.328, all of which were imported to EndNote. By using different strategies in EndNote (automated, half automated and manual) 4.063 duplicates were removed. It is of note that in this very large set of records, duplicates were present not only between

databases, but also within databases. Records of meeting abstracts were also removed since there is no full-text available for them and 5.333 records remained.

Inclusion criteria: Our inclusion criteria was “health intervention that is developed (designed) and/or implemented and presented in association with one of the terms used to describe the personalized vision in medicine and health care (see the search terms)”. To be more clear in our inclusion criteria, we looked for health intervention/ practices which were implemented/demonstrated on at least one case (it can be as an example or a pilot; a drug and test on the market; a short test to assess feasibility, etc.) and had enough details provided in the relevant article(s). These criteria applied to both Screening and Eligibility stages.

Screening

Screening was carried out by two independent researchers, with two different strategies. First researcher (TC) screened all of the 5.333 titles and, as necessary, abstracts.

For triangulation, second researcher (ES) applied a different strategy: she made an independent search within the database of 5.333 records using a large list of terms that are potentially relevant for identifying the practices and screened titles and abstracts of the records revealed by this search. The second search terms included the following:

“analytical model”, “application”, “case study”, “clinic”, “clinical”, “clinical practice”, “clinical AND evaluate”, “clinical AND translation”, “education”, “evaluate”, “evaluation”, “implement”, “implementation”, “innovat”, “innovation”, “introduce”, “introduction”, “introduction AND clinic”, “model”, “patient”, “patient data”, “pilot”, “practical”, “practice”, “real-life”, “testing”, “tool”, “transition”, “translate”, “translation”, “valorization”

TC identified 209 as ‘appropriate for inclusion’, whereas ES identified 95 as ‘appropriate’ and 279 records ‘for discussion’. If two researchers classified a record as ‘appropriate for inclusion’ it was included. The records that were identified as ‘appropriate for inclusion’ by only one researcher and the 279 records ‘for discussion’ were taken to the discussion step. Here, each item was discussed individually. In case a consensus wasn’t reached with the available title and abstract, the record was included in this phase because a more informed decision can be made in the next phase using the full text of the article. As a result, the researchers decided to include 277 records in the screening phase. Full text manuscripts were obtained via the university library and, if not available, by requesting from the authors. Eventually, 262 full texts were obtained (95% of the included ones).

Eligibility (1st stage)

Full texts of the articles were reviewed using the inclusion criteria as set above by two researchers (TC and ES) independently. The researchers then compared their lists of inclusion, exclusion and ‘for discussion’: 56 articles were identified as ‘inclusion’ by both researchers and 53 as ‘exclusion’ by both. 43 articles were identified as ‘inclusion’ by only one of the researchers and 125 were brought for discussion by either of them, resulting in 168 items that were taken into discussion in the following way: for each article, one researcher stated her reasons to include/exclude, then the other researcher listed her reasons and both points of views were discussed until consensus was reached. As a result, 123 of the 168

articles were identified to be included with a consensus. Thus, in total, 179 articles were included in the analysis.

The reasons for exclusion (83 records) are presented below:

- not implemented/presented on a case: 44
- not 'health intervention': 14
- not associated with 'personalized medicine' (or other keywords searched): 2
- research and development tool or strategy: 14
- review of gene-disease or gene-drug associations: 2
- not enough details: 7

Some articles could have been excluded for more than one reason from the above list, but it was counted only for the most apparent reason.

Additional references

While the full texts were investigated, additional records were identified from the references. They were included only if they were present in the first set of 5.333 records and complied with the inclusion criteria. This brought 5 additional references, leading to 184 included items.

Eligibility (2nd stage)

While specific practices were determined from the articles (see section '2.3 Identification of practices from the articles') it was seen that 27 articles didn't actually meet the inclusion criteria and therefore were excluded with the consensus of both researchers (see Figure 1). The reasons for exclusion (27 records) are presented below:

- - not implemented/presented on a case: 16
- - not 'health intervention': 1
- - not enough details: 10

Eventually, 157 articles were included.

For the flow diagram, please refer to Figure 1 of the article.