# Supplementary material

## Literature search terms and strategy

##### Search strategy

The search strategies used in all electronic bibliographic databases were based on the search terms described below. The search strategy in Table 1 is an example of a strategy that was used in medical bibliographic databases and Table 2 is an example of the one used in engineering databases.

##### Search terms for mobile medical applications (MMA)

Several search terms were used for mobile medical applications (MMA). These included terms used to describe MMAs, mobile health (mHealth) apps, and mobile apps in general. Search terms for telemedicine (including telehealth) and electronic health (eHealth) were also included as they are sometimes used interchangeably with mHealth.(1)

##### Search terms for mobile platforms

A variety of search terms were used for mobile platforms. Similar to the MMA strategy several terms were used to describe the devices. These terms include various names for cell phones, ‘smart’ devices, the operation systems the platforms run, and the commercial names of popular devices. It was important to include a wide array of search terms for cell phones and related devices as indexing terms for smartphones in some databases were only added recently (2016). Indexing terms for mobile phones were implemented in 2003 – predating the 2008 cut-off.(2,3)

##### Search terms for evaluation

Additional search terms were included for evaluation (assessment).

Table 1: Search strategy for PubMed (MEDLINE)

|  |  |
| --- | --- |
| **Mobile Medical Applications (MMA)** | **Mobile Platform** |
| (mobile applications[mh] OR mobile app\*[tw] OR portable electronic app\*[tw] OR mHealth app\*[tw] OR portable software app\*[tw] OR mobile medical app\*[tw] OR mobile health app\*[tw] OR telemedicine[mh] OR telemedicine app\*[tw] OR telehealth app\*[tw] OR electronic health app\*[tw] OR eHealth app\*[tw]) | AND (cell phones[mh] OR cell phone\*[tw] OR cellular phone\*[tw] OR cellular telephone\*[tw] OR mobile phone\*[tw] OR mobile[tw] OR mobile device\*[tw] OR mobile platform\*[tw] OR smartphone[mh] smartphone\*[tw] OR smart phone\*[tw] OR android\*[tw] OR ipad\*[tw] OR iphone\*[tw] OR apple watch\*[tw] OR smart watch\*[tw] OR tablet\*[tw] OR iOS[tw] Blackberr\*[tw] OR windows[tw] OR Microsoft[tw] OR google[tw] OR apple OR HTC[tw]) |

Table 2: Search strategy for Compendex

|  |  |  |
| --- | --- | --- |
| **Mobile Medical Applications (MMA)** | **Evaluation** | **Other** |
| ("mobile medical app" OR "mobile health app" OR "mobile health application" OR "mobile health app" OR “telemedicine app” OR “telemedicine application” OR “mHealth app” OR “mhealth application” OR “eHealth app” OR “eHealth application” OR “telehealth app” “telehealth application”) | AND (evaluat\* OR criteri\* OR apprais\*) | AND medic\*  (tool\* OR framework\*) |

## Grey literature search strategy

In addition to the literature searches in electronic bibliographic databases several grey *literature* sources were searched to identify any relevant MMA related evaluation frameworks that were not available in the published literature. These sources are listed in Tables 3, 4, and 5.

Table 3: Internet

|  |  |
| --- | --- |
| **Source** | **Location** |
| IMS Institute for Health Informatics | http://www.imshealth.com/ |
| MIT Hacking Medicine Institute | http://hackingmedicine.mit.edu/ |
| Mobihealthnews | [*http://www.mobihealthnews.com/*](http://www.mobihealthnews.com/) |
| Mobile World Capital | http://mobileworldcapital.com/ |
| Sax Institute | *https://www.saxinstitute.org.au/* |
| Science.gov | http://www.science.gov/ |
| The Commonwealth Fund | *http://www.commonwealthfund.org/* |
| World Health Organisation (WHO) | [*http://www.who.int/en/*](http://www.who.int/en/) |

Table 4: Speciality websites

|  |  |
| --- | --- |
| **Source** | **Location** |
| Indigenous Australian HealthInfoNet | http://www.healthinfonet.ecu.edu.au/ |
| International Medical Device Regulator Forum (IMDRF) | http://www.imdrf.org/index.asp |

Table 5: Sub-jurisdictional

|  |  |
| --- | --- |
| **Source** | **Location** |
| *National Health Services (NHS), England* | http://www.nhs.uk/Pages/healthappslibrary.aspx |
| *Victorian Health Promotion Foundation (VicHealth)* | https://www.vichealth.vic.gov.au/media-and-resources/vichealth-apps |

## Reference List

1. Riva G. From telehealth to E-health: Internet and distributed virtual reality in health care. Cyberpsychol Behav. 2000 Dec;3(6):989-98.

2. National Center for Biotechnology Information. Mobile Applications 2014 [cited 2016 April 11]. Available from: [http://www.ncbi.nlm.nih.gov/mesh/?term=mobile+applications[mh]](http://www.ncbi.nlm.nih.gov/mesh/?term=mobile+applications%5bmh%5d).

3. National Center for Biotechnology Information. Smartphone 2016 [cited 2016 April 11]. Available from: [http://www.ncbi.nlm.nih.gov/mesh/?term=smartphone+[mh]](http://www.ncbi.nlm.nih.gov/mesh/?term=smartphone+%5bmh%5d).