**Supplementary Table 1:** Database search strategy in PUBMED

| Search # | Query | Number of hits |
| --- | --- | --- |
| 1 | (("Sepsis"[Mesh] OR "Shock, Septic"[Mesh] OR  "Bacteremia"[Mesh]) OR ( "Bacterial Infections"[Mesh] AND "Intensive  Care Units"[Mesh] )) AND "Anti-Bacterial Agents"[Mesh] AND  "procalcitonin" [Supplementary Concept] | 97 |
| 2 | sepsis OR septicemia OR septicemias OR bacteremia OR  bacteremias OR bacteraemia OR bacteraemias OR "blood poisoning"  OR "blood stream infection" OR "blood stream infections" OR  "bloodstream infection" OR "bloodstream infections" OR "septic shock"  OR "endotoxic shock" OR "toxic shock" OR (("intensive care unit" OR  "intensive care units" OR ICU OR ICUs) AND ("bacterial infection" OR  "bacterial infections")) | 174,041 |
| 3 | antibiotic OR antibiotics OR "antibacterial agent" OR  "antibacterial agents" OR "anti bacterial agent" OR "anti bacterial  agents" OR "antimicrobial agent" OR "antimicrobial agents" OR "anti  microbial agent" OR "anti microbial agents" | 755,523 |
| 4 | Search procalcitonin OR PCT | 7,651 |
| 5 | (sepsis OR septicemia OR septicemias OR bacteremia OR  bacteremias OR bacteraemia OR bacteraemias OR "blood poisoning"  OR "blood stream infection" OR "blood stream infections" OR  "bloodstream infection" OR "bloodstream infections" OR "septic shock"  OR "endotoxic shock" OR "toxic shock" OR (("intensive care unit" OR  "intensive care units" OR ICU OR ICUs) AND ("bacterial infection" OR  "bacterial infections"))) AND (antibiotic OR antibiotics OR "antibacterial  agent" OR "antibacterial agents" OR "anti bacterial agent" OR "anti  bacterial agents" OR "antimicrobial agent" OR "antimicrobial agents"  OR "anti microbial agent" OR "anti microbial agents") AND  (procalcitonin OR PCT) | 405 |
| 6 | (sepsis OR septicemia OR septicemias OR bacteremia OR bacteremias OR bacteraemia OR bacteraemias OR "blood poisoning"  OR "blood stream infection" OR "blood stream infections" OR  "bloodstream infection" OR "bloodstream infections" OR "septic shock"  OR "endotoxic shock" OR "toxic shock" OR (("intensive care unit" OR  "intensive care units" OR ICU OR ICUs) AND ("bacterial infection" OR  "bacterial infections"))) AND (antibiotic OR antibiotics OR "antibacterial  agent" OR "antibacterial agents" OR "anti bacterial agent" OR "anti  bacterial agents" OR "antimicrobial agent" OR "antimicrobial agents"  OR "anti microbial agent" OR "anti microbial agents") AND  (procalcitonin OR PCT) Field: Title/Abstract | 315 |
| 7 | Search (#20) OR ((("Sepsis"[Mesh] OR "Shock, Septic"[Mesh] OR  "Bacteremia"[Mesh]) OR ( "Bacterial Infections"[Mesh] AND "Intensive  Care Units"[Mesh] )) AND "Anti-Bacterial Agents"[Mesh]) AND  "procalcitonin" [Supplementary Concept]) Field: Title/Abstract | 354 |
| 8 | Search (#20) OR ((("Sepsis"[Mesh] OR "Shock, Septic"[Mesh] OR  "Bacteremia"[Mesh]) OR ( "Bacterial Infections"[Mesh] AND "Intensive  Care Units"[Mesh] )) AND "Anti-Bacterial Agents"[Mesh]) AND  "procalcitonin" [Supplementary Concept]) Filters: Publication date from  2004/01/01 | 332 |
| 9 | Search (#20) OR ((("Sepsis"[Mesh] OR "Shock, Septic"[Mesh] OR  "Bacteremia"[Mesh]) OR ( "Bacterial Infections"[Mesh] AND "Intensive  Care Units"[Mesh] )) AND "Anti-Bacterial Agents"[Mesh]) AND  "procalcitonin" [Supplementary Concept]) Filters: Publication date from  2004/01/01; English | 275 |

Keywords and number of hits obtained from the PUBMED database for the literature search conducted on May 4th, 2016 (J. Hey and N. Picot). The final search strategy retrieved 354 publications for appraisal from the PUBMED database.